# Hoval DigiNet

## Service manual

7010001.003 V2.4.1

## Overview of subjects

# Key to symbols

Keyboard operation

Wait

Diskette

Mouse operation

Single mouse click with left button

Single mouse click with right button

Double mouse click with left button

Double mouse click with right button

**Description**

**Application**

**Information**

**Attention**

**Note**

# 1 Introduction

## 1.1 DigiNet DN5 system components

This manual describes the installation, commissioning and operation of the various components of the DigiNet control system for the Hoval Indoor Air-Conditioning System. Depending on the type of device and the desired operating interface, the following components may be used:-

| | | | Documentation | | |
|---|---|---|---|---|---|
| **Type** | **Description** | **Product** | **Installation** | **Configuration** | **Operation** |
| **DigiUnit** | DDC/PLC controller (automation station), built into the unit switching box, for fresh-air equipment(RoofVent, MH) (cascade controller and TempTronic) | -EYR209F921 | - | 2.4.4 | - |
| **DigiEco** | DDC/PLC controller (automation station), built into the recirculated air device or WelRad (TempTronic only) | -EYE202F001 | - | 2.4.5 | - |
| **DigiZone** | Control built into the zone cabinet (automation station).<br>Interface for outdoor and room temperature sensors, control inputs, demand signals and 'DigiEasy' easy control device. | -EYE202F001 | - | 2.4.3 | - |
| **DigiPlus** | Additional DDC/PLC controller (automation station), built into the zone cabinet, for options such as humidity control, frequency converter or other special functions | -EYR203F001 | - | | - |

| | | | Documentation | | |
|---|---|---|---|---|---|
| **Type** | **Description** | **Product** | **Installation** | **Configuration** | **Operation** |
| **DigiMaster** | Uniform user panel (Touch Panel) for the entire plant, for instructed users. | - EYT250F021 | - | 3.1 | 3.2 |
| **DigiEasy** | Additional device for restricted operation, for untrained users. Solely to operate one control zone. | - EYB270F101 | - | 2.4.3 | |
| **DigiCom** | Visualisation software (novaPro32) for a standardised network environment; comprises software package and novaNet router for connection to a PC via COM interface. | - YZP401F901<br>- EYZ291F001 | 2.1 | 2.5 | 2.4 |
| **DigiWeb** | Connection to the Internet comprising web server (novaWeb) and router. | - EYW300F001<br>- EYZ291F001 | - | 5.1 | 5.2 |
| **DigiBac** | Integration into management level with a BACnet communication card via BACnet / IP based on Ethernet. | - EYK230F040 | | | - |
| **DigiService** | Service-Terminal to display parameters of a DigiUnit locally | - EYT240F001 | | | 6 |

# 1.2 Typical system topology

Example with 2 control zones and 3 DigiUnit and 3 DigiEco devices in each case:

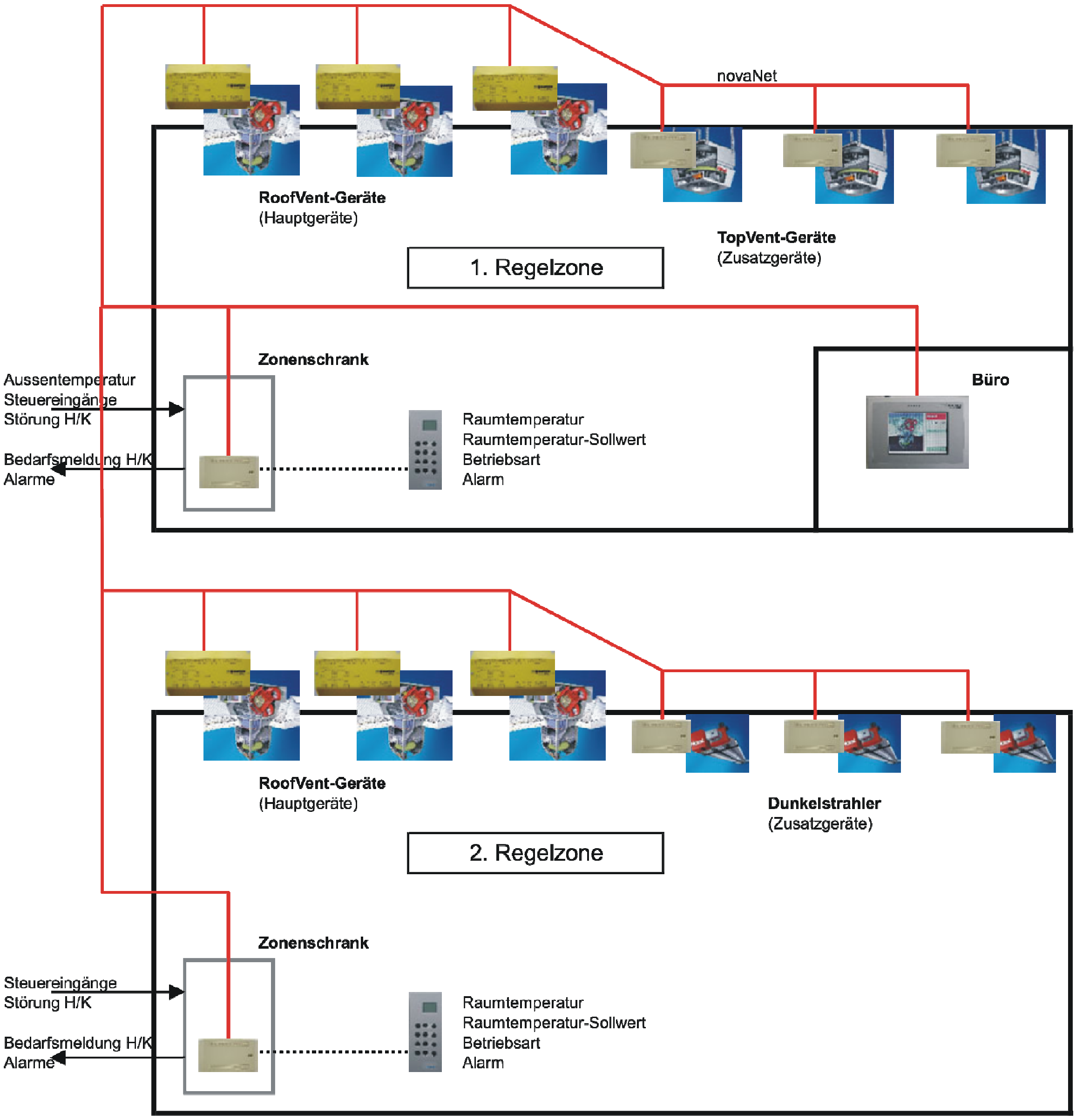



Illustration1-1: Typical topology

# 2 DigiCom

## 2.1 Installation

### 2.1.1 PC configuration

**HW requirements:**

| | |
|---|---|
| PC: | |
| Processor: | Intel Pentium II 400 MHz |
| Working memory: | 256 MB |
| Hard disk: | min. 1.8 Gbyte (9 GB recommended depending on size of plant) |
| Diskette drive: | 3½ ' 1.44 MByte (for the installation of the licence) |
| CD drive: | for the installation |
| Ports: | 1 mouse, 1 serial, 1 ISA bus (optional for EYS290)<br>1 printer<br>1 network connection |

**SW requirements:**

Windows NT 4 SP6a / 2000 / XP
Acrobat Reader 4.0 or higher

### 2.1.2 novaNet router EYZ 291

The **EYZ 291 F001** novaNet router is used to connect the EY3600 novaNet field bus to a PC via the RS-232 serial interface. In this case, the connection is either made directly to the PC interface, or via a dialling modem or another switched or unswitched RS232-compatible pair of devices (ISDN adapter, line driver, converter, fibre optic, leased-line modem, radio modem etc.).
The novaNet router contains 1MB of buffer memory in order to decouple the time behaviour of the novaNet and the RS232 interface. The functionality for the dialling operation includes dialling from above (remote access) and also dialling from below (remote monitoring, i.e. automatic upward signalling of events that merit reporting).
The baud rate for data transmission is set with the help of 4 DIL switches on the rear of the device.

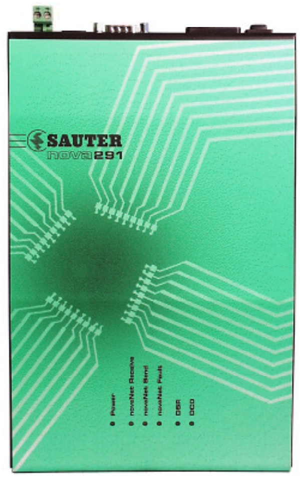


Illustration2-1: novaNet router, EYZ 291

## 2.1.3 Connection with novaNet

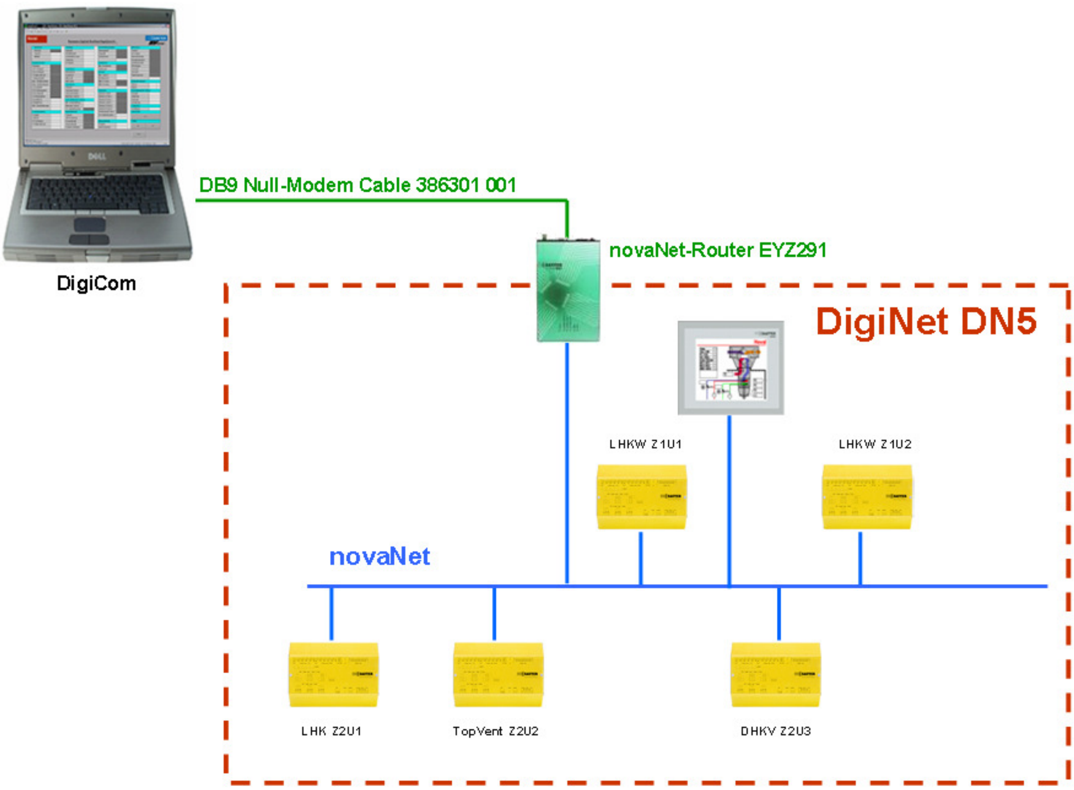



Illustration2-2: Connection with novaNet

### 2.1.3.1 RS232 connection with novaNet Router 291

The novaNet Router 291 communication device must be set for a transmission speed of 38400 bits/s (only switch 3 to ON).

The COM 1 port of the DigiCom PC is connected to the COM port of the novaNet Router 291via a standard cable of type DB9, zero modem cable (article number 386301 001).

### 2.1.3.2 Connecting the novaNet Router 291 to novaNet

The connection to the novaNet devices is made either from the RJ11 connection or from terminals a and b of novaNet router EYZ291, according to choice.

**Attention**:
If connections a and b are transposed by mistake, communication on novaNet will collapse as a result.
A correct connection is shown by the flashing 'novaNet Receive' LED.

Note:
If the 'novaNet Fault' LED on novaNet Router EYZ291 lights up, there is a short to earth in the novaNet network.

## 2.1.4 Software installation



### 2.1.4.1 The DigiCom CD-ROM

**DigiCom YZP 401 F901** is the commissioning tool based on the EY3600 novaPro32 visualisation software, which allows simple parameterisation and commissioning of one or more EY3600 automation stations in connection with the **Hoval DigiNet DN5** system technology.
In addition to the EY3600 novaPro32 standard visualisation, the following functionalities are available:

- installation routine for FBD_nP32 and the DN5 universal project dataset with integrated licensing help
- integrated download tool, enabling automatic loading of data records into the automation stations with no need for programming knowledge (CASE FBD)
- specific commissioning schematics allow simple adaptation of the configuration parameters to device- and project-specific requirements.

DigiCom is supplied together with the DN5 universal project dataset in three languages (d/f/e) on CD-ROM.

DigiCom is supplied on a CD-ROM without copy protection. You obtain the right to use DigiCom in the form of a separate licence diskette.

Place CD-ROM **YZP 401 F901** in your drive. After a few seconds, the start menu of the CD will open (see Illustration2-3). If the CD does not start automatically, start the SetupHoval.exe programme from Windows Explorer.

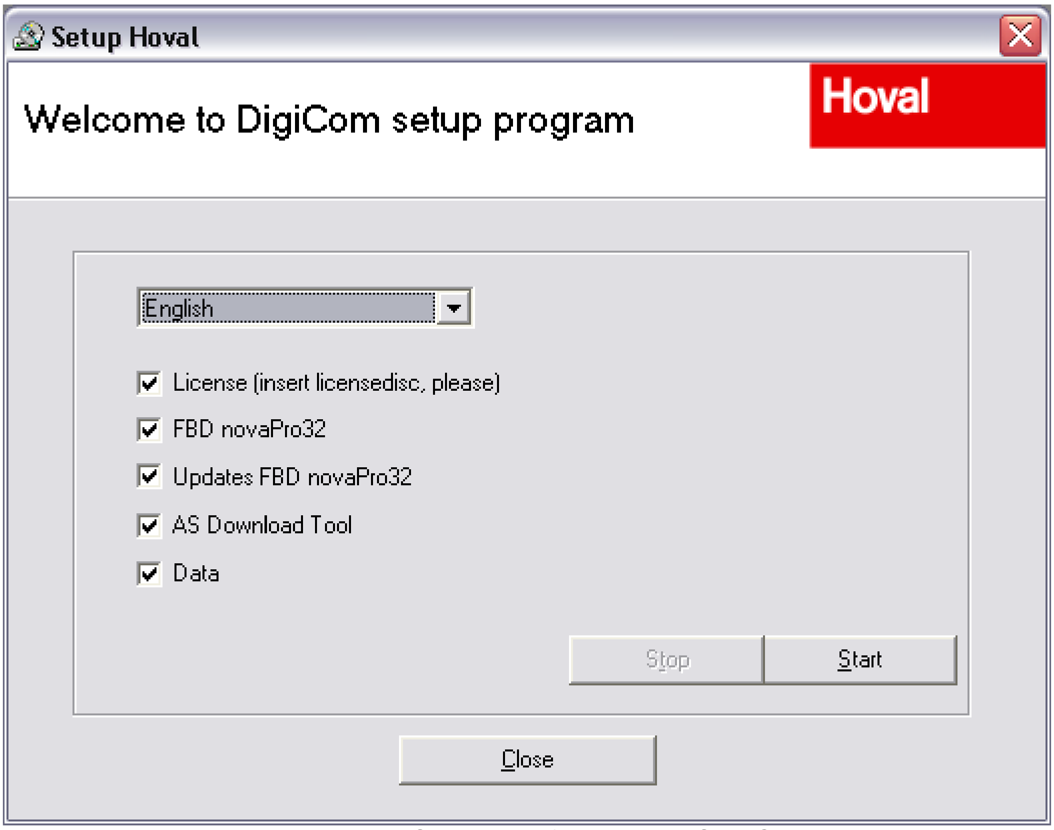



Illustration2-3 Start menu of the EY3600 CD-ROM

Select the language you want

Information:
Your choice of language sets the language for these components:

- installation language
- language of the programmes to be installed
- language for the DigiCom commissioning schematics

If one of the listed components is already installed on the PC, it is flagged 'OK' and this component is not selected for the installation. If you want to overwrite the component that is already installed, you can set your choice manually.

**Attention**:
Please note these points before you start the installation on your PC:

- Close all Windows programmes on your PC.
- When installing in Microsoft Windows NT, 2000 and XP, you must be logged on as a user in the Administrator group.

Select the language you want and follow the instructions in the installation programme.

#### 2.1.4.1.1 Installing the licence

1. You are asked to insert the licence diskette.




Illustration2-4

**Attention**:
Make certain that you remove the write protection on the diskette first.

2. Confirm the licence path that is proposed.

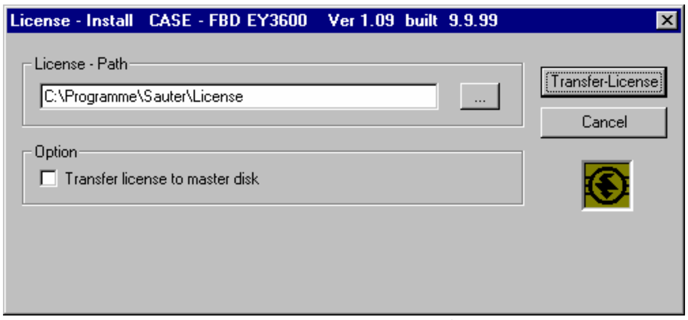



Illustration2-5: Installation programme for the user license

3. This is how you are shown that the licence installation was successful:




Illustration2-6

**Attention**:
The licence can only be deinstalled later on with the original diskette from which it was installed for the first time. Keep the licence diskette carefully for this reason.

### 2.1.4.1.2 Installing FBD novaPro32

1. Start the installation of the programme in this window.
   Press the 'Next>' button.

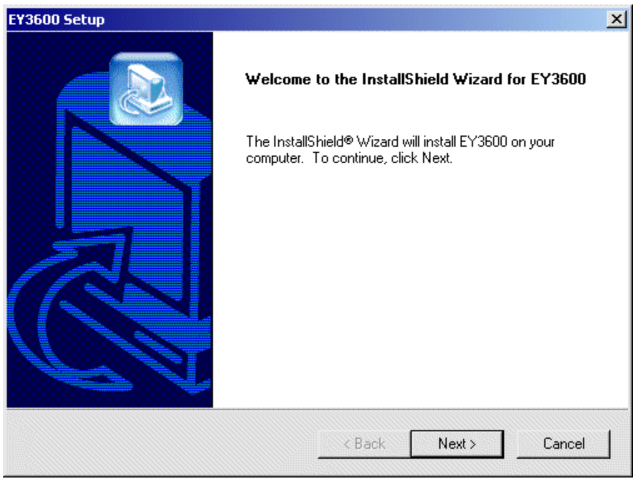



Illustration2-7

2. Confirm the proposed installation directory.

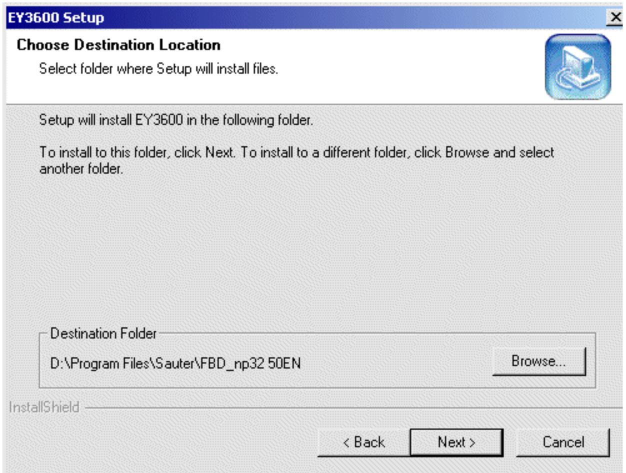



Illustration2-8

3. Select the FBD option and novaPro32.
   Press the 'Next>' button.

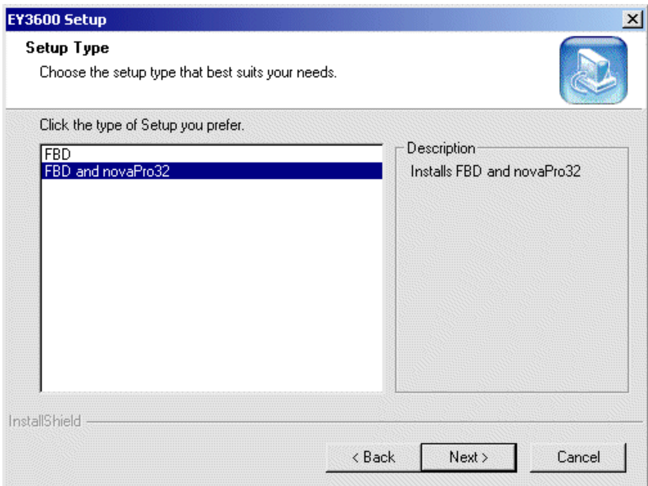



Illustration2-9

4. The selected range is shown in a window.
   Press the 'Next>' button.

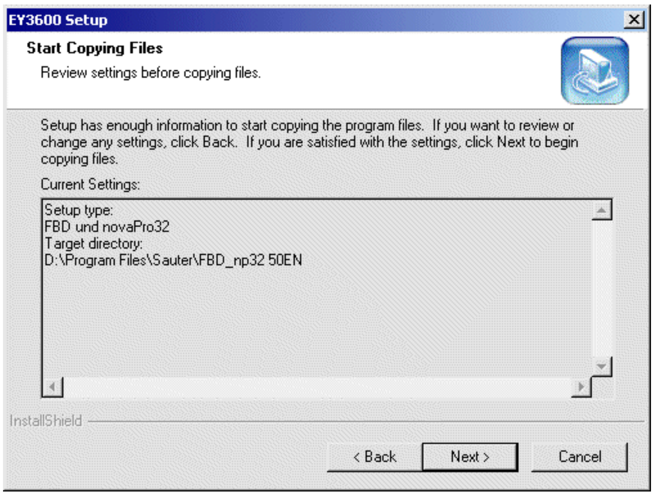



Illustration2-10

The progress of the installation is depicted by this bar. On reaching the 100% mark, the window closes automatically.

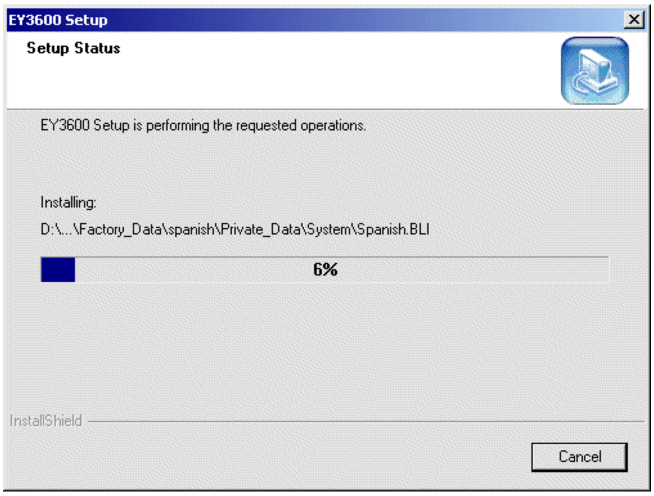



*Illustration2-11*

6. Press OK to acknowledge the message opposite.




Illustration2-12 Installation programme message

You can set the language for the 'List and Label' programme in this window. This application organises the templates and the printers.

7. Confirm your choice by pressing 'Next>'.

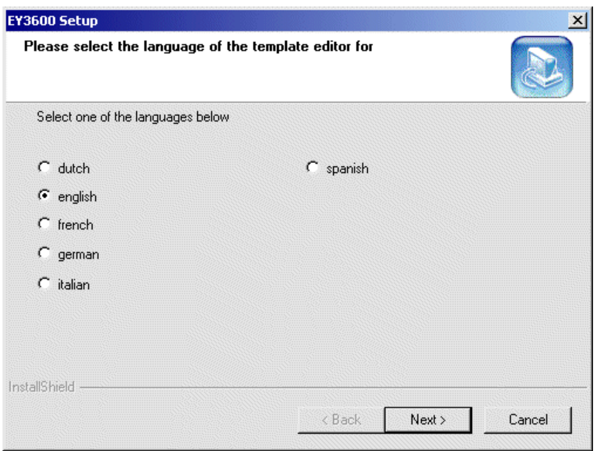



Illustration2-13

This window confirms the end of the installation of the novaPro32 programme.

8. Press the 'Finish' button to exit from the installation.

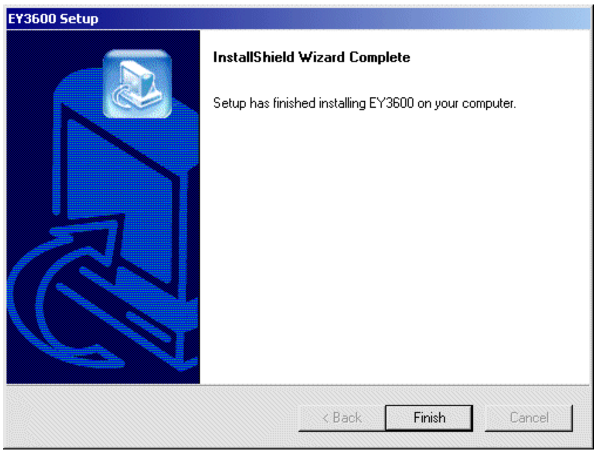



Illustration2-14

#### 2.1.4.1.3 Installing an update for FBD novaPro32

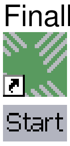
Press the 'Next>' button




Illustration2-15

#### 2.1.4.1.4 Installing further components

No more operating interventions are needed for the further components ('AS Download Tool', 'Data', 'Registry Entries', 'HDB_Entry').
Finally, the 'Start' link is created on the desktop.




### 2.1.4.2 Deinstalling the licence

**Attention**:
Under no circumstances must the licence be deleted from the hard disk. Deleting the licence files will destroy the licence irrevocably. For deinstallation, use the original licence diskette from which the licence was originally installed on the PC.

To deinstall, proceed as follows:-

1) Insert the licence diskette in your diskette drive (A).
2) Start the ‘install.exe’ programme from the diskette.

3) Under ‘Licence Path’, select the path for the installed licence (e.g. C:\Programmes\Sauter\Ey3600\Licence\)
4) Select the 'Transfer licence to master disk' option.

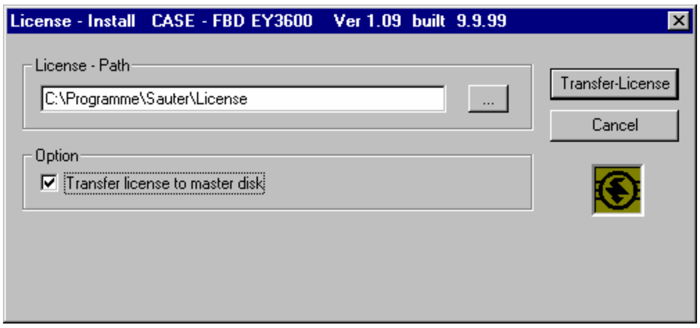


Illustration2-16: Deinstallation of the user license

5) To start the deinstallation, click on the ‘Transfer-Licence’ command button.
6) You will be shown that the deinstallation was successful.

# 2.2 Starting and shutting down DigiCom

## 2.2.1 Start

Start **DigiCom** by double-clicking on the icon that has been specially created for your project. All the necessary components will be loaded automatically.



Illustration2-17: DigiCom start icon

## 2.2.2 Close / shut down

You can use the context menu (right-hand mouse button) for the tab as a convenient way of closing opened documents (windows) (see Illustration2-18).

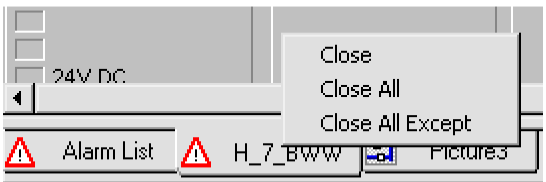


Illustration2-18: context menu for novaPro32 document tabs

Shut the programme down with the File/Shut down menu.

# 2.3 User login and logout

## 2.3.1 Login

- To show the input mask for 'user name' and 'password', click on the key in the icon bar or use the 'File' menu:



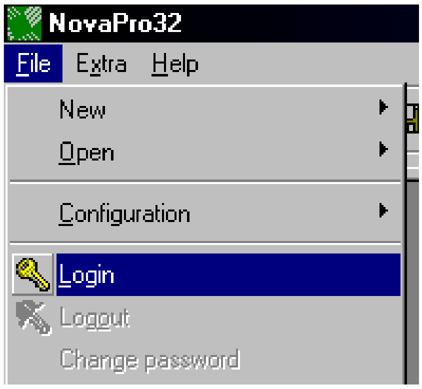


Illustration2-19: Login

- In the next input box, enter your user name and your password, and confirm your entries with 'OK'.

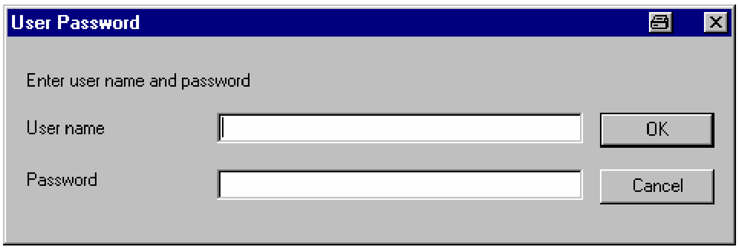


Illustration2-20: Entering your user name and password

## 2.3.2 Logout

Before leaving your workplace, you must log out from your workstation. This bars all operating functions, as an effective way of preventing incorrect manipulations by unauthorised people.

Click on the  icon in the icon bar, or use the 'File' menu to log out if you are already logged in.

All open windows (pictures, alarm lists, etc.) will be closed and **novaPro32** remains barred for manipulations until a user logs in again.

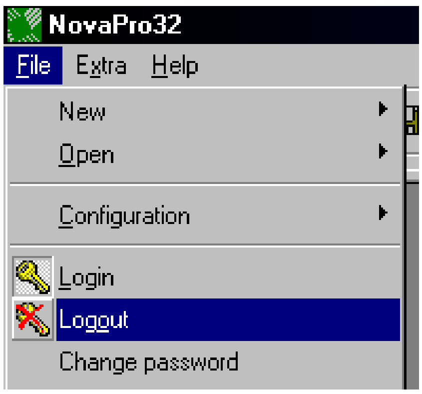


Illustration2-21: Logout

## 2.3.3 Change password

Users can independently change the password which the System Administrator assigns them for a more familiar one.

To do this, go to the ‘File’ menu and select the ‘Change password’ function:

Enter your new password, and confirm your entry in the ‘Confirm password’ box.

The password you enter is masked.

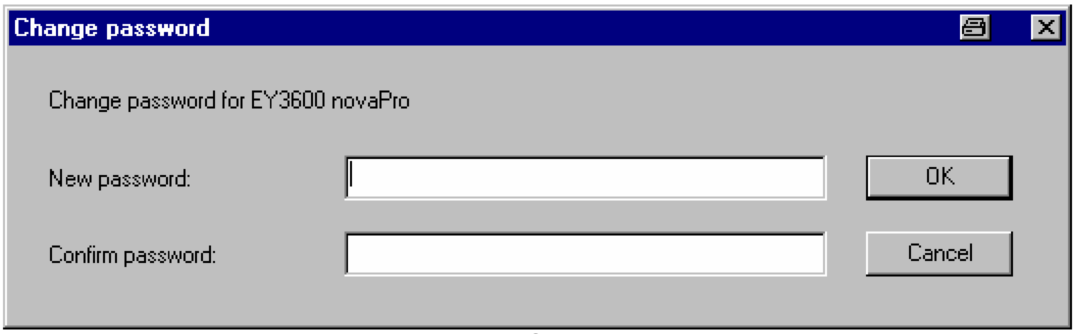



Illustration2-22: Change password

# 2.4 Commissioning the DigiNet devices with DigiCom

## 2.4.1 System overview

After starting the system and setting up the connections, you are shown the system overview:

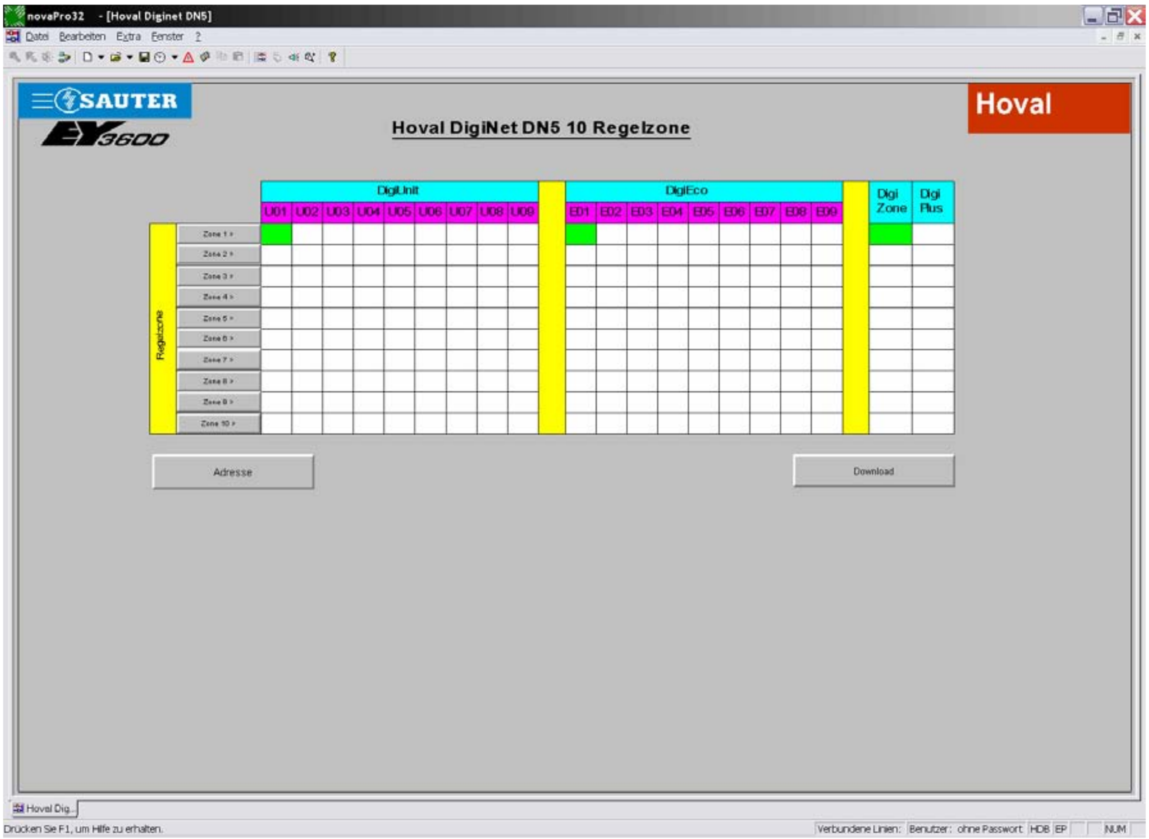



Illustration2-23: System overview

The system overview shows all the bus participants that are present in green. Assignment to a control zone and device category is determined by the coding of the DIP switches on the control device.

It can take up to 6 minutes to scan the whole network.

The required coding is shown in the table in Annexe 9.1 . You can also call this up via the 'Address' button.

Assignment to a control zone can be changed on the control device by recoding as appropriate when necessary.

## 2.4.2 Downloading data from DigiZone / DigiUnit / DigiEco / DigiPlus control devices

Press the 'Download' button to call up the Download window.
Illustration2-24: Download window

Enable the relevant checkboxes for the zones that are present. You can use the 'Check all' or 'Uncheck all' buttons to select or deselect all the zones.
If at least one zone is selected, the Download buttons are enabled.

For first-time operation, select the 'Download with init' button.

**Attention**:
The 'Download with init' function initialises all the control devices and sets the default parameters.

Information:
If the control devices have already been parameterised and you only want to adapt the zone assignment, use the 'Download without init' function.

Illustration2-25: 'Stop download'

If the download is active, you can stop it with the 'Stop download' button if necessary.

If a download is stopped, the current zone is completed first.

The bar graphic shows the progress of the download.

After completion of the download, the result is shown in the 'Log reports' pop-up.

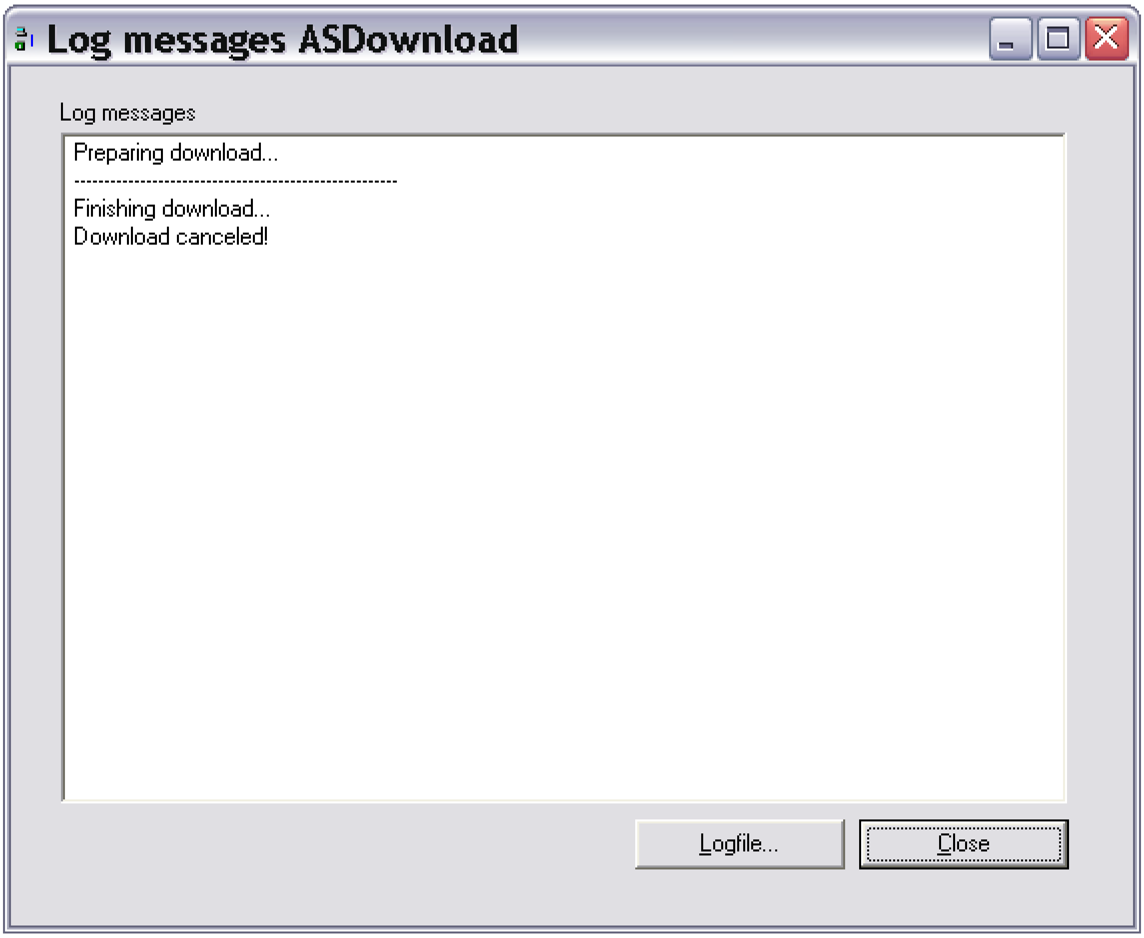



Illustration2-26: Log reports

## 2.4.3 DigiZone control

Press the 'Zone (1…n)' button in the System overview screen to call up the zone schematic:

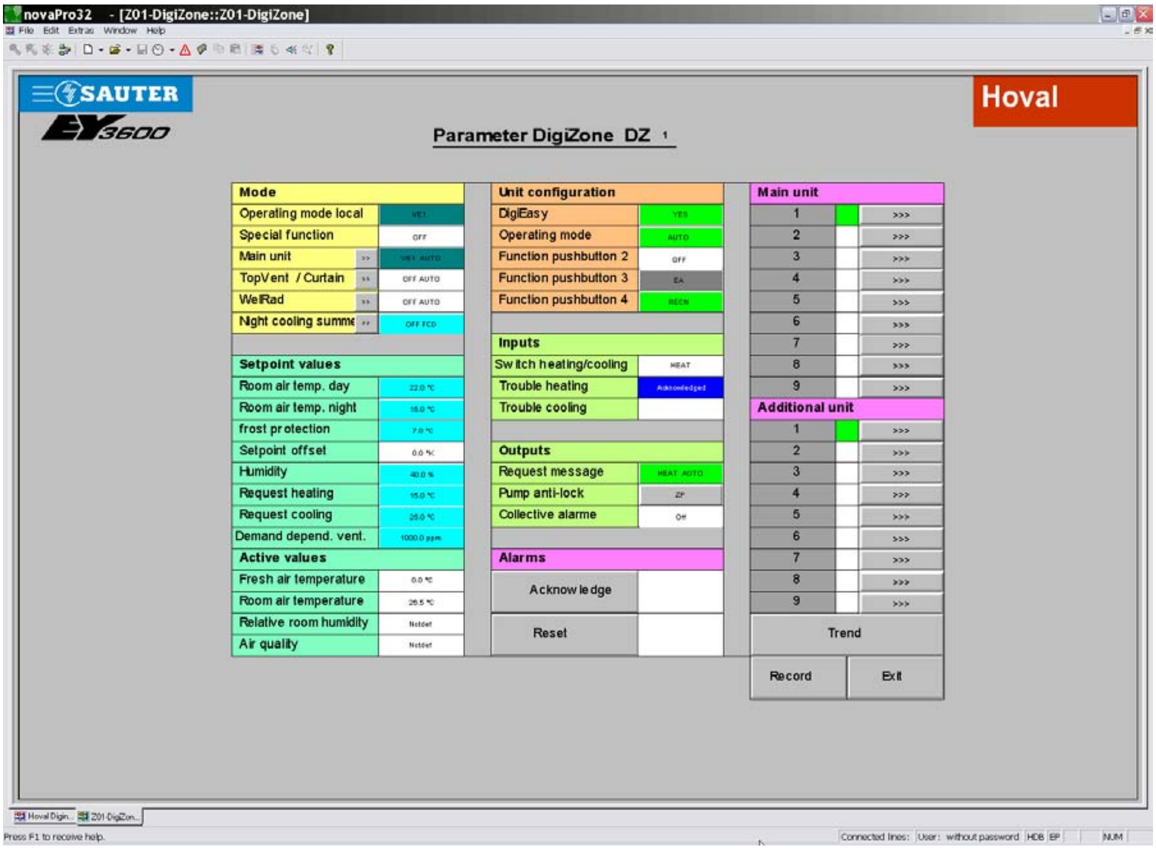


Illustration2-27: Zone schematic

The zone overview shows those parameters and statuses that are valid throughout the entire control zone.

The main devices that are present in this zone (DigiUnit) and the additional devices (DigiEco) are shown in green. Press the fast forward key to open the device in question:

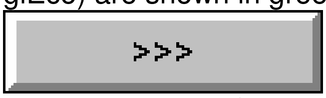


Illustration2-28: Fast forward key

Information:
It is advisable to parameterise the main and additional devices first and then to set the zone parameters.

## 2.4.4 DigiUnit control

The device screen shows all the parameters and statuses for the selected device:

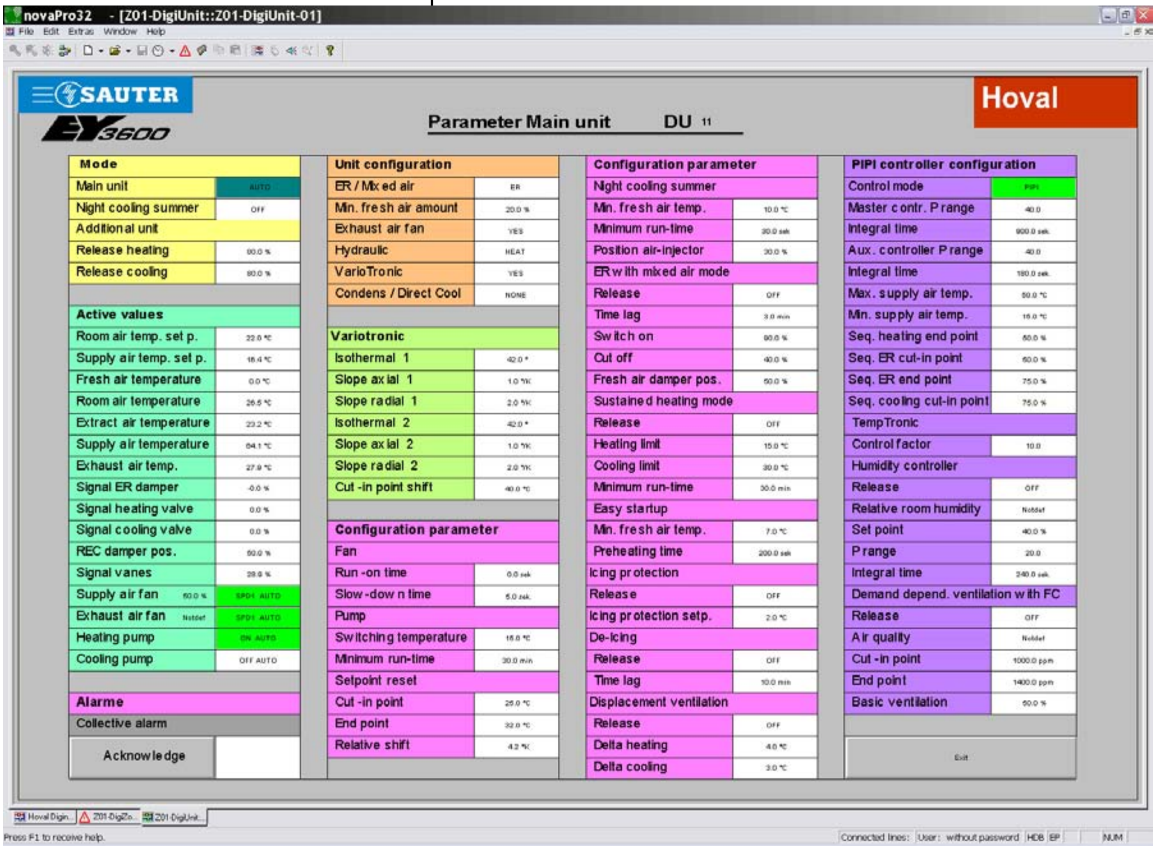



Illustration2-29: DigiUnit parameter list

### 2.4.4.1 Unit configuration

You specify the type of ventilation device in the 'Unit configuration' section. You can select the possible alternatives for each parameter from the context menu. To do this, click with the right-hand mouse button on the relevant input box and select the alternative you want.

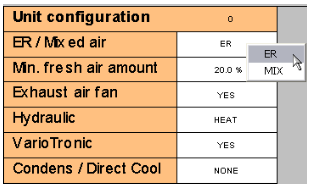



Illustration2-30: Unit configuration

To enter values for the 'Min. fresh air quantity' parameter, select 'Change value' in the associated context menu.

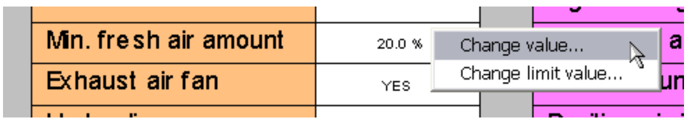



Illustration2-31: Change value

Enter the new value in the input window and confirm with 'OK'.
After a processing cycle, the new value is fed back from the controller and shown in the input box.

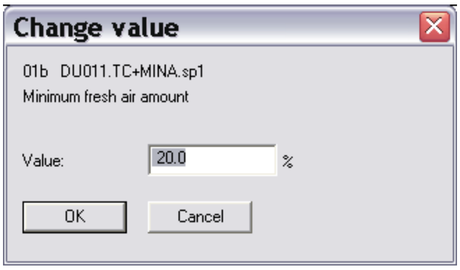



Illustration2-32: Enter value change

After a processing cycle, the new value is fed back from the controller and shown in the input box.

Information:
If the input value is outside of the permitted input range, the highest or lowest possible value is automatically effective (minimum 0 %, maximum 100 % here).

The configuration number resulting from the selected parameters is shown in the section header.

## 2.4.4.2 Variotronic

If the ventilation device is fitted with a servo motor to adjust the swirl blades automatically, the associated default parameters can be adapted to the particular conditions in the 'Variotronic' section.
Click with the right-hand mouse button on the relevant input box and the context menu to select the 'Change value' input mask will open (see also the picture in Illustration2-31: and Illustration2-32: Enter value ).

| Variotronic | |
|---|---|
| Isothermal 1 | 42.0 ° |
| Slope axial 1 | 1.0 °/K |
| Slope radial 1 | 2.0 °/K |
| Isothermal 2 | 42.0 ° |
| Slope axial 2 | 1.0 °/K |
| Slope radial 2 | 2.0 °/K |
| Cut-in point shift | 40.0 °C |

Illustration2-33: Variotronic

## 2.4.4.3 Configuration parameters

In the 'Configuration parameters' section, you can adjust the default parameters for various functionalities of the ventilation device if you need to.
The 'ERG', 'Backup mode', 'Icing protection', 'Defrost switching' and 'Source ventilation' options can be switched on or off via the respective 'Enable' parameters.

| Configuration parameter | |
|---|---|
| Fan | |
| Run-on time | 0.0 sek |
| Slow-down time | 5.0 sek. |
| Pump | |
| Switching temperature | 15.0 °C |
| Minimum run-time | 30.0 min |
| Setpoint reset | |
| Cut-in point | 25.0 °C |
| End point | 32.0 °C |
| Relative shift | 4.2 °K |

Illustration2-34: Configuration parameters

## 2.4.4.4 Control parameters

In the 'Configure PIPI controller' section, you can specify the control strategies and the associated control parameters.

| PIPI controller configuration | |
|---|---|
| Control mode | PIPI |
| Master contr. P range | 40.0 |
| Integral time | 900.0 sek. |
| Aux. controller P range | 40.0 |
| Integral time | 180.0 sek. |
| Max. supply air temp. | 50.0 °C |
| Min. supply air temp. | 15.0 °C |
| Seq. heating end point | 50.0 % |
| Seq. ER cut-in point | 50.0 % |
| Seq. ER end point | 75.0 % |
| Seq. cooling cut-in point | 75.0 % |
| TempTronic | |
| Control factor | 10.0 |
| Humidity controller | |
| Release | OFF |
| Relative room humidity | Notdef |
| Set point | 40.0 % |
| P range | 20.0 |
| Integral time | 240.0 sek. |
| Demand depend. ventilation with FC | |
| Release | OFF |
| Air quality | Notdef |
| Cut -in point | 1000.0 ppm |
| End point | 1400.0 ppm |
| Basic ventilation | 50.0 % |

Illustration2-35: Control parameters

Information:
It is usually sufficient to set the starting points for the sequence in relation to the power levels for the individual elements. The P-Band and Reset time parameters are preset for 'robust' control behaviour.

## 2.4.4.5 Alarms

If an alarm is active in the control zone of the selected DigiUnit, this is signalled in red in the 'Collective alarm' field of the 'Alarms' section.

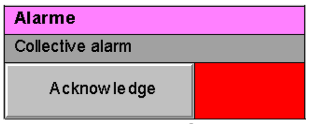


Illustration2-36: Collective alarm

### 2.4.4.5.1 Alarm details in the alarm list

From the icon bar, select the ⚠ command button. This opens the alarm list.

You will find details about the information in the alarm list in 2.5.5.

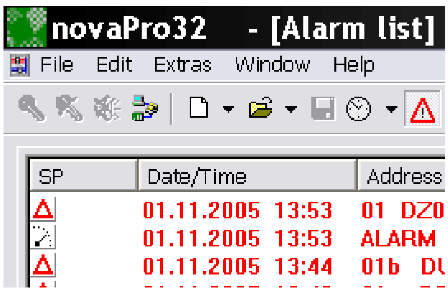


Illustration2-37: Calling up the alarm list

### 2.4.4.5.2 Alarm reset

After the fault has been rectified, you must press the '**Reset Alarm**' button. This resets the stored alarms for the control zone.

## 2.4.4.6 Plant mode

In the 'Plant mode' section, the DigiUnit can be put into an operating mode that diverges from the control zone.
Also, you can specify the Enable values for any additional DigiEco devices that might be assigned.

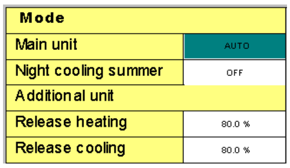



Illustration2-38: Plant mode

## 2.4.4.7 Current values

The 'Current values' section shows the current operating values.

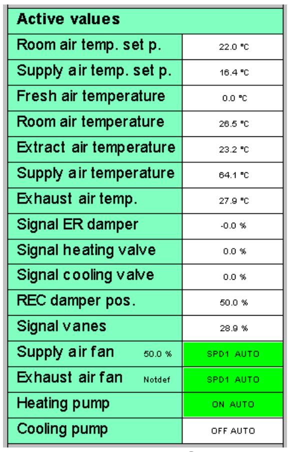



Illustration2-39: Current values

### 2.4.4.7.1 Override equipment

The supply air fan, the exhaust air fan, the heating pump and the cooling pump (if they are present for this type of device) can be overridden with the help of the context menu, for test purposes.
Select the '**Auto**' command to return them to automatic mode.

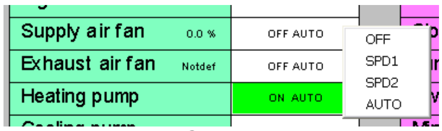



Illustration2-40: Override equipment

### 2.4.4.7.2 Override control signals

The control signals for the ERG damper, heating valve, cooling valve, FA/RCA damper and swirl blades (if they are present for this type of device) can be overridden with the help of the 'Change value' command in the context menu, for test purposes.
Select the '**Aut AO**' command to return them to automatic mode.

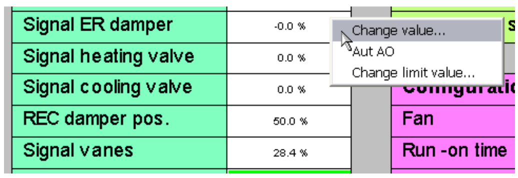



Illustration2-41: Override control signals

### 2.4.4.7.3 Apply limit values to measured values

For monitoring purposes, limit values can be applied to the measured values using the 'Change limit value' context menu .

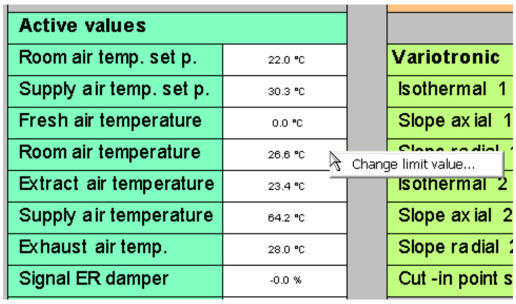


Illustration2-42: Limit values

You can define an upper and/or a lower limit value.

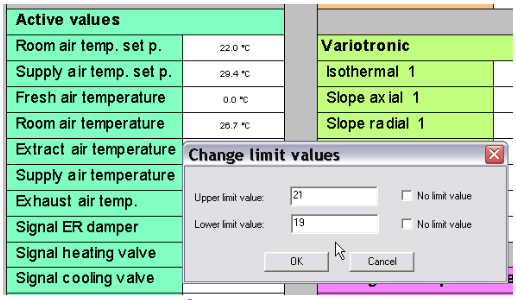


Illustration2-43: Change limit value

Violation of the limit value is signalled by changing the colour of the measured value (red for too high, blue for too low).

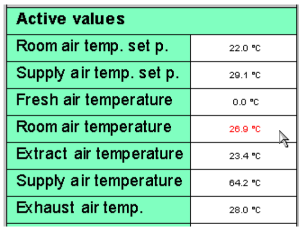


Illustration2-44: Limit value violation

The acknowledgement in the context menu allows you to document the fact that the limit value violation has been noted. The acknowledged limit value is signalled by changing the colour of the measured value (magenta for 'upper limit value acknowledged', light blue for 'lower limit value acknowledged').
.

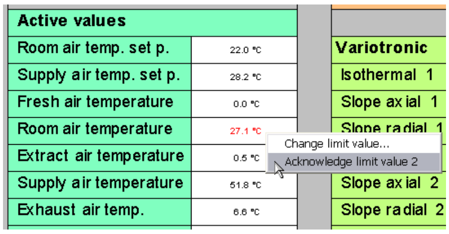


Illustration2-45: Acknowledge limit value

Information:
For more extensive function analyses, the possibilities offered by Trend / Historic database are available if needed, see Section 2.5.6.

## 2.4.4.8 Close parameterisation

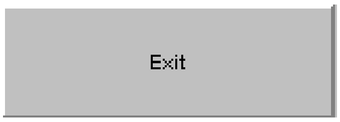
Enter the device number in the title line:



Information:
The individual restart delay after a mains voltage break is calculated on the basis of the device number entered here.

### 2.4.4.9 Return to 'DigiZone' view

Press the 'Exit' button to return to the 'DigiZone' view:




Repeat the parameterisation for the other DigiUnit devices.

## 2.4.5 DigiEco control

Parameterisation of the DigiEco control is carried out in the same way as for the DigiUnit control, as appropriate.

Use the 'Main device' parameter to specify the DigiUnit device to which the DigiEco device is assigned.

# 2.5 General operating functions

## 2.5.1 The screen

### 2.5.1.1 Calling up a novaPro32 picture

A user can open pictures that are selected for him via the 'File|Open|Picture' menu (see Illustration2-46). The 'Picture' command opens the selection of plant schematics (see Illustration2-48). The 'ASGroup' command opens the selection of AS groups (see Illustration2-49).

Alternatively, you can open a picture directly via the icon bar (see Illustration2-47) or directly from the document browser:

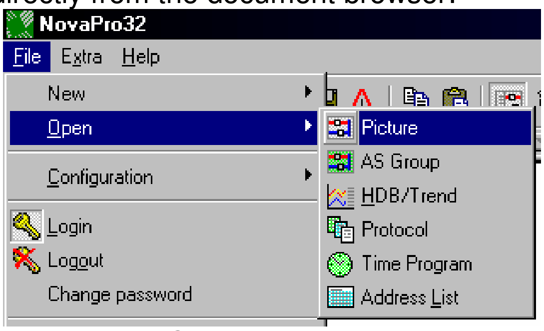



Illustration2-46: Open a picture

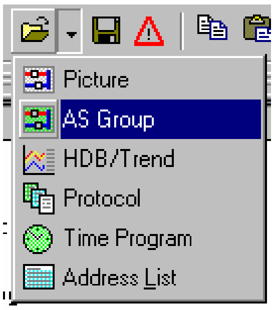



Illustration2-47: Icon bar

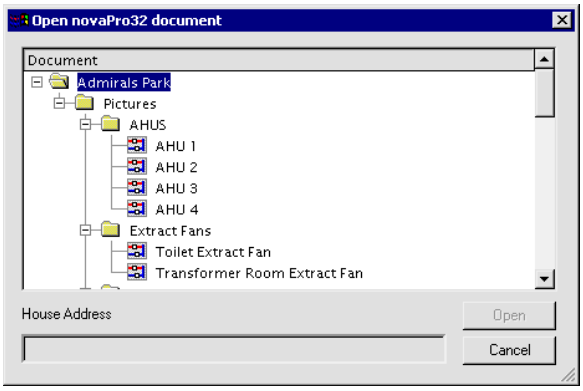



Illustration2-48: 'Plant schematics' selection

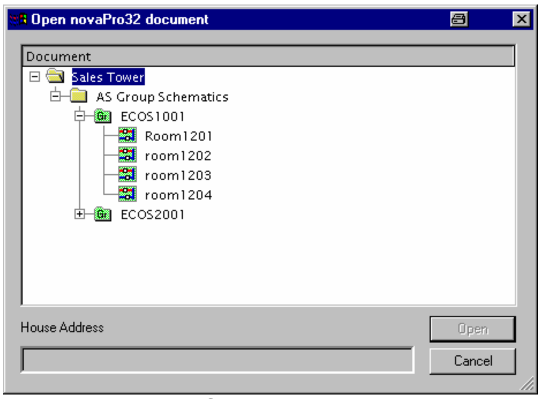



Illustration2-49: 'AS group pictures' selection

The next section explains the most important functions in greater detail with the help of a simple example:

## 2.5.1.2 Functions in novaPro32 pictures

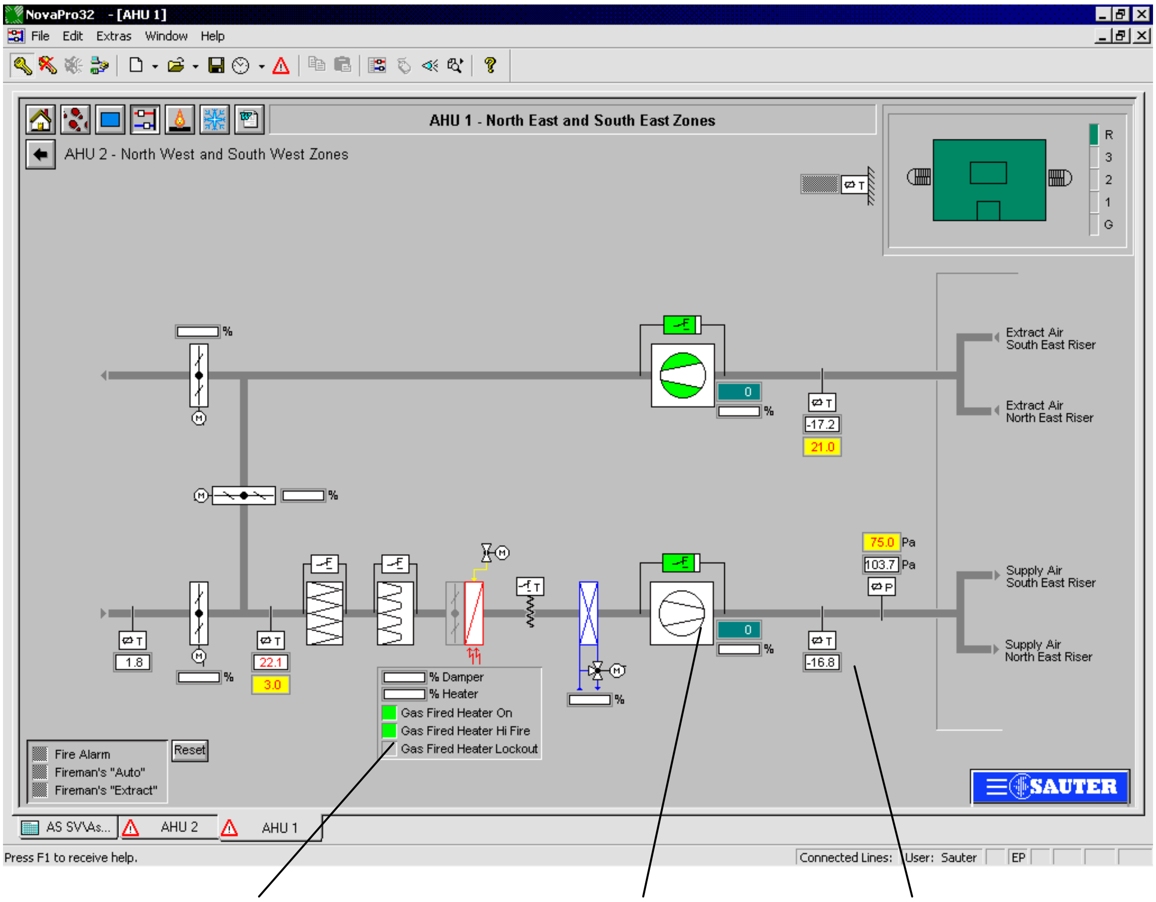



Illustration2-50: Typical novaPro32 picture

### 2.5.1.2.1 Acknowledging alarms

In pictures, alarms can be shown as text messages as well as fields that change colour. The supervisor (system administrator) is free to choose the colours to indicate the various statuses (normal, alarm, acknowledged) when the pictures are being dynamised.

Example:

| Field colour | Status |
|---|---|
| white | normal |
| red | alarm |
| blue | acknowledged |

Active alarms can be acknowledged using the context menu, with the right-hand mouse button.

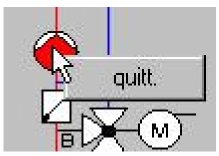



Illustration2-51

### 2.5.1.2.2 Changing limit values

If the measured values are dynamised, the set limit values can be changed using the context menu.

- Call up the context menu: right-hand mouse button

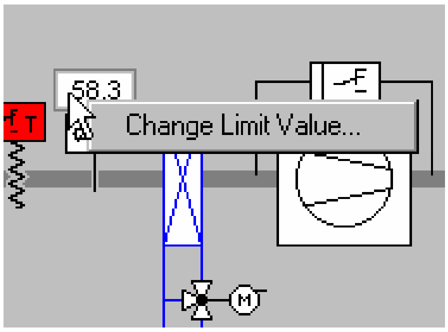



Illustration2-52

- Enter the new limit values and confirm with ‘OK’.

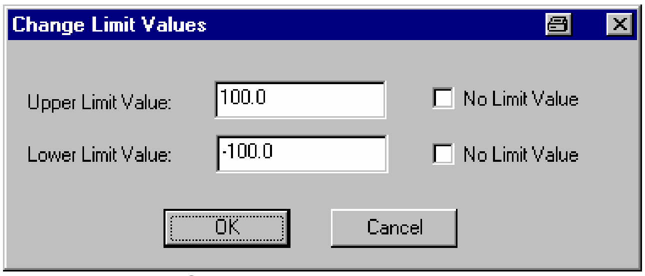



Illustration2-53: Changing limit values

### 2.5.1.2.3 Changing setpoint values

Setpoint values can also be adjusted online in the same way as limit values.

- Call up the context menu: right-hand mouse button
- Select ‘Change Value’

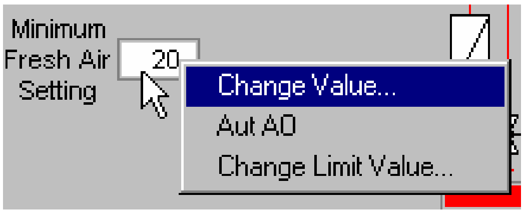



Illustration2-54

- Enter the new setpoint value and confirm with ‘OK’.

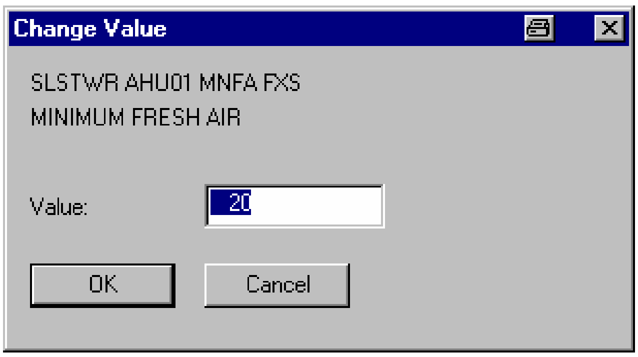



Illustration2-55: Changing a setpoint value

### 2.5.1.2.4 Commands

Commands (such as switching a fan) can be triggered via the context menu of a field, if it is parameterised for this purpose. To do this, click on the field with the right-hand mouse button. You can then select the command you want in the context menu.

The command field changes colour depending on the status of the address belonging to the field, i.e. the field colour and the text it contains serve as feedback.

Example:

| | | |
|---|---|---|
| Example: | OFF | switch the fan off |
| | Low | switch the fan to a slower setting. |
| | High | switch the fan to a faster setting. |
| | Aut | 'automatic' setting, i.e. the fan is now controlled by the AS user programme or by a time programme. |

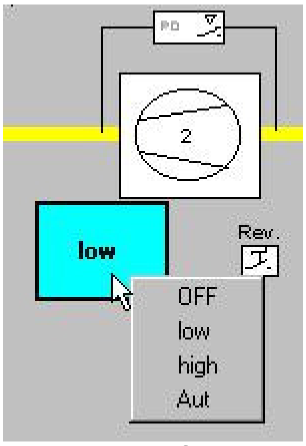


Illustration2-56: Switching command

### 2.5.1.2.5 Control buttons

Depending on the way the **novaPro32** picture is parameterised, various actions can be executed with buttons. Click on the button with the left-hand mouse key and the relevant command will be executed without delay.

Possible commands:-

- Execute a switching command, such as opening or closing a ventilation damper, etc.
- Call up a subsequent picture (the current picture is closed).
- Zoom into another picture (the current picture remains open).
- Open a time profile
- Open an alarm list
- Open a protocol
- Call up an external program, or run an external file with the associated programme (play a sound file, start a video, etc.)

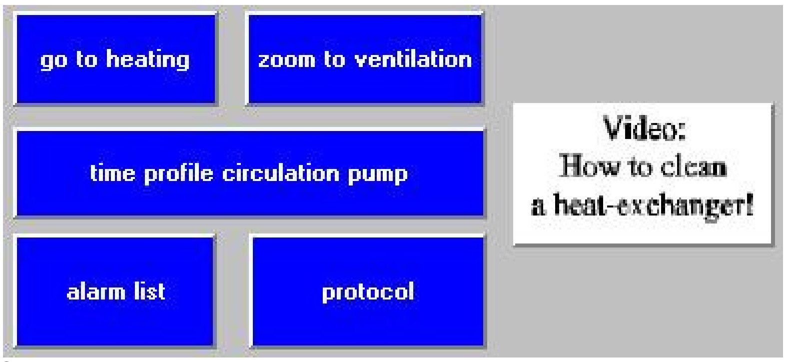


Illustration2-57: Control buttons

Any desired picture can be assigned to a button by the System Administrator, so the appearance of a button can easily be adapted to the function assigned to it.

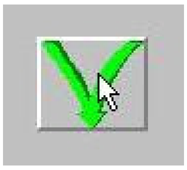


Illustration2-58

## 2.5.2 Time profile



The calendar and the time profiles based on it are used to specify the time behaviour of automation station (AS) addresses. 320 time commands are possible per AS (or 64 for **ecos**). Special days (public holidays, vacation, etc.) - i.e. variations from the annual calendar - can be parameterised in the calendar.

Both the calendar and the time profiles are saved in the automation stations. Configuration is menu-prompted from **novaPro32,** or from the nova240 / nova250 operating terminals.

### 2.5.2.1 Create a new time profile

Use the ‘File| New| Time profile’ menu command to create a new time profile, or select the ‘New AS Time profile’ command from the context menu for folder ‘AS Time profiles’ in the novaPro32 document browser.
Then select a house address for which you want to create a time profile.

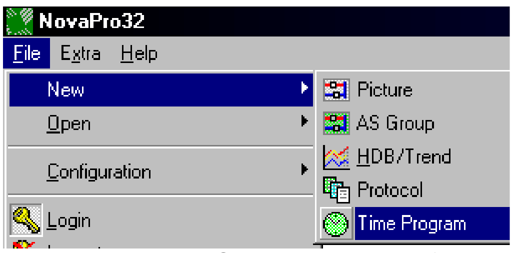


Illustration2-59: Create new time profile

### 2.5.2.1.1 Select address

**Context menu:**

Use the context menu for the time profile (right-hand mouse button) (see Illustration2-60) to go via ‘Selection’ to the properties window (see Illustration2-61):
From the address selection (see Illustration2-62), select the house address for which you want to create a time profile.

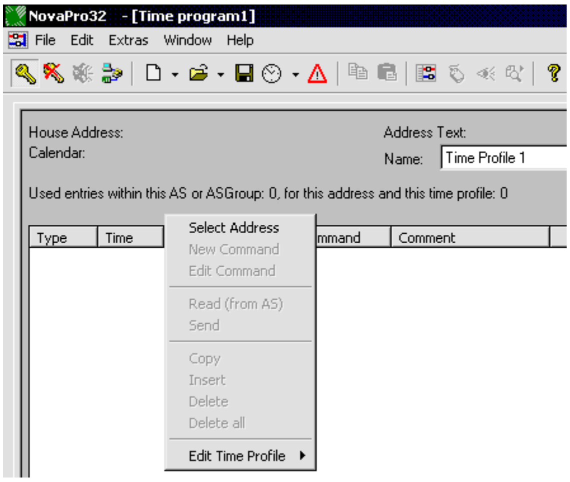



Illustration2-60: Context menu for time profile

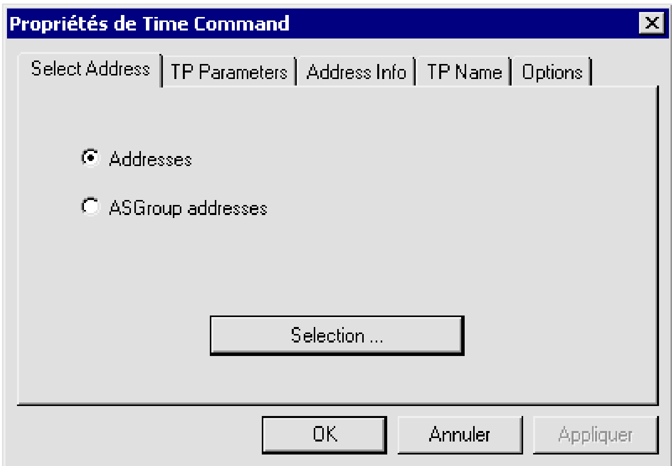



Illustration2-61: Properties

In ‘Address Selection’, you can select the address which is to be given a time profile.

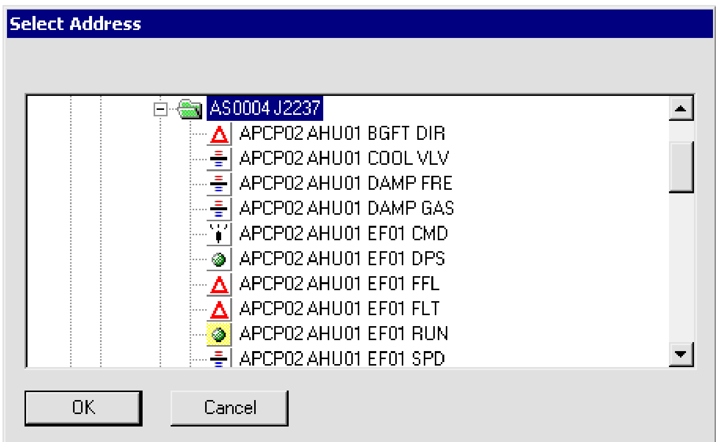



Illustration2-62: Address selection

**Address browser:**
You can also insert the address you want directly from the address browser, using ‘drag and drop’.

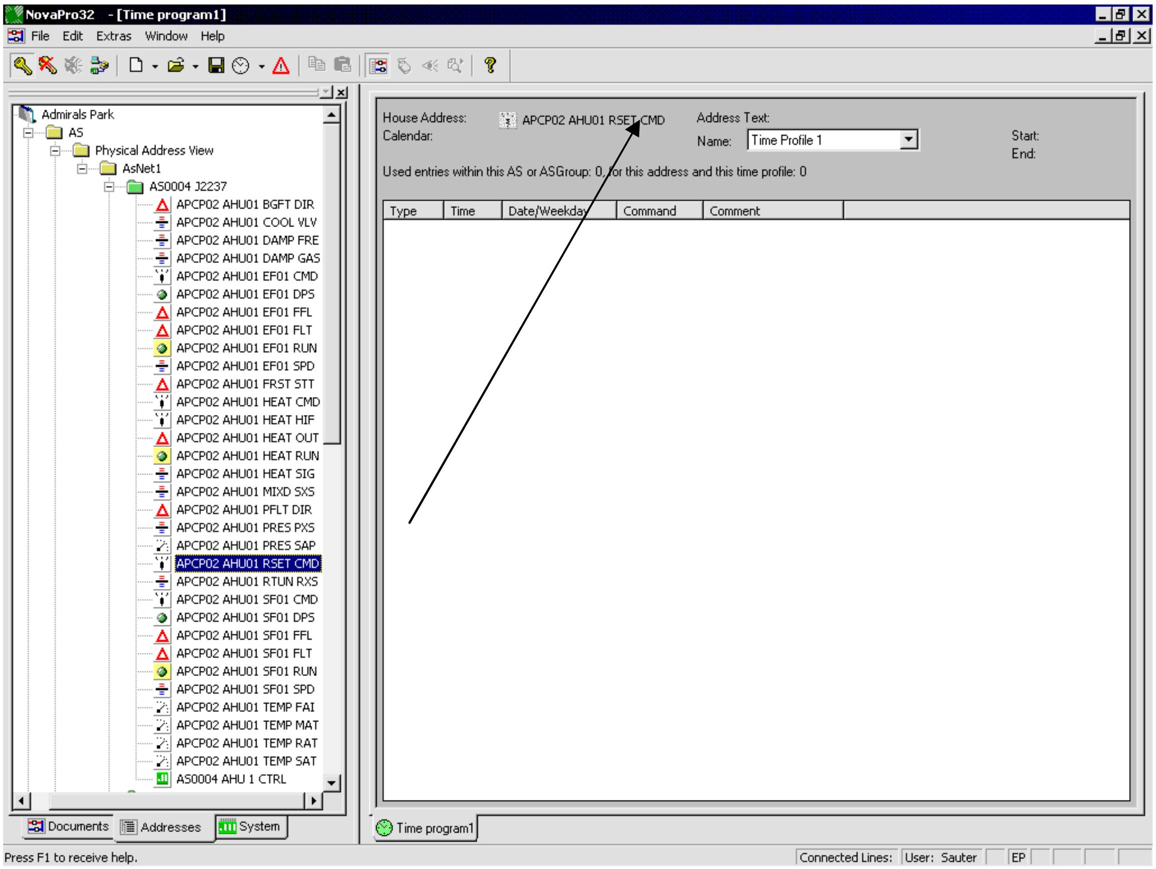


Illustration2-63

## 2.5.2.2 Opening an existing time profile template

Open a time profile that already exists from the ‘File|Open|Time profile’ menu and select a time profile that already exists from the file selection box.

Alternatively, you can open a time profile template with the ‘Open’ icon in the icon bar, with a button configured for this purpose in a **novaPro32** picture, or by double-clicking on the relevant time profile icon in the novaPro32 document browser.

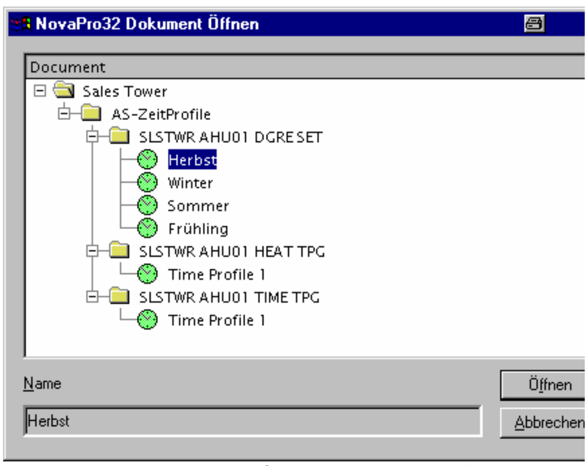


Illustration2-64: Opening a time profile

Illustration2-65: Time profile

## 2.5.2.3 Read a time profile from the AS

Parameterisation of the time and vacation programmes can also be handled by other AS network participants (non-networked novaPro32 operating stations) or with the ‘nova240’ manual user panel. This makes it **necessary** to read the current data for an address from the automation station before you change the time profile.

Use the ‘Read (from AS)’ command in the context menu (right-hand mouse key) (see Illustration2-66) to read the time profile for the selected address back from the AS into **novaPro32** and to display it.

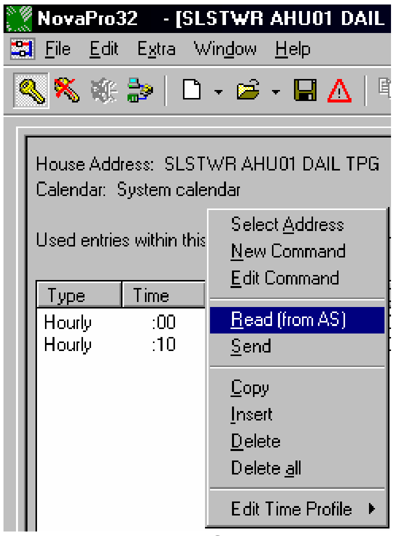


Illustration2-66: Context menu

If no entry is present, you will see this message:



Illustration2-67

## 2.5.2.4 Edit a time profile

### 2.5.2.4.1 Add a new command

To insert a new command into a time profile, select the ‘New command’ command from the context menu (right-hand mouse button). The ‘Dyn_pas Control Properties’ window will open.

On the ‘TP parameters’ tab, select the command you want (see Illustration2-68).

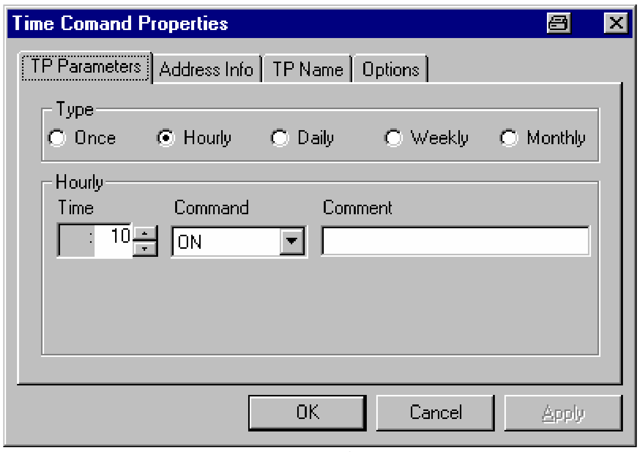


Illustration2-68: Time profile parameterisation

### 2.5.2.4.2 Change a time command

Select this procedure to change a command in an existing time profile:

- select the command you want in the time profile.
- select the ‘Change command’ command from the context menu (right-hand mouse button).
  The ‘Dyn_pas Control Properties’ window will open.
- Make the changes you want.

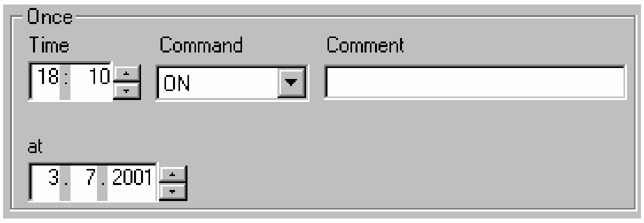
#### 2.5.2.4.3 Time command selection

Select the command you want in the ‘Dyn_pas Control Properties’ window on the TP parameters tab:

Click on the programme type that you want, and the next section of the window will be adjusted.




**Once:**



**Time:**

| | | |
|---|---|---|
| Hour: | **0-23** | time: hour |
| | ***** | every hour |
| Minute: | **0 - 59** | time: minute |
| | **P4** | every four minutes (0, 4, 8, 12, 16, ...) |
| | **P8** | eight times per hour (3, 11, 19, 27, 33, 41, 49, 57) |
| | **P15** | every quarter of an hour (00, 15, 30, 45) |
| | **P30** | every half-hour (00, 30) |

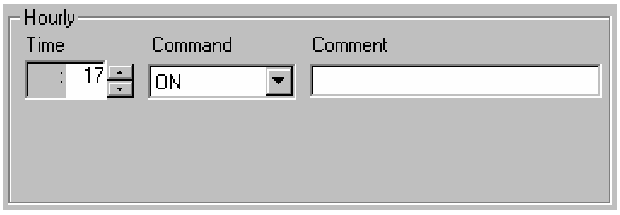
**Command:**
The possible commands depend on the address type and its parameterisation.

**on:**

| | | |
|---|---|---|
| Day: | **1 - 31** | day of the month |
| Month: | **1 - 12** | month |
| Year: | **1997 -2059** | calendar year |
| | **0** | every year |

**Comment:** maximum of 32 characters

**Hourly:**



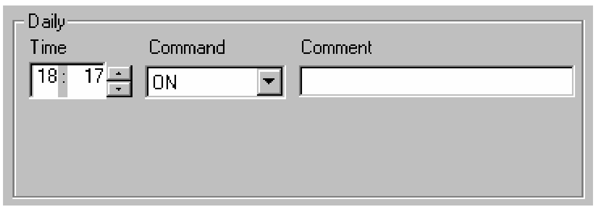

**Time:**

| | | |
|---|---|---|
| Minute: | **0 - 59** | time: minute |
| | **P4** | every four minutes (0, 4, 8, 12, 16, ...) |
| | **P8** | eight times per hour (3, 11, 19, 27, 33, 41, 49, 57) |
| | **P15** | every quarter of an hour (00, 15, 30, 45) |
| | **P30** | every half-hour (00, 30) |

**Command:**
The possible commands depend on the address type and its parameterisation.

**Comment:** maximum of 32 characters

**Daily:**



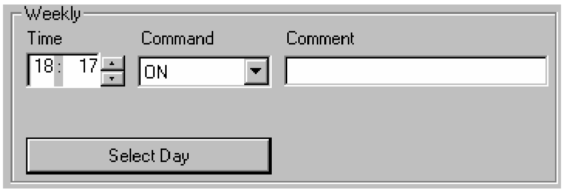
**Time:**

| | | |
|---|---|---|
| Hour: | **0-23** | Time: hour |
| Minute: | **0 - 59** | time: minute |
| | **P4** | every four minutes (0, 4, 8, 12, 16, ...) |
| | **P8** | eight times per hour (3, 11, 19, 27, 33, 41, 49, 57) |
| | **P15** | every quarter of an hour (00, 15, 30, 45) |
| | **P30** | every half-hour (00, 30) |

**Command:**
The possible commands depend on the address type and its parameterisation (see the ‘Command codes’ table).

**Comment:** maximum of 32 characters

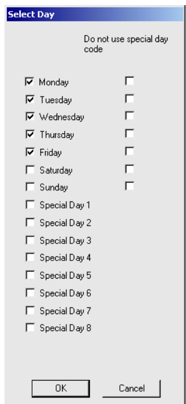
## Weekly:




**Time:**

| | | |
|---|---|---|
| Hour: | **0-23** | Time: hour |
| | * | every hour |
| Minute: | **0 - 59** | time: minute |
| | **P4** | every four minutes (0, 4, 8, 12, 16, ...) |
| | **P8** | eight times per hour (3, 11, 19, 27, 33, 41, 49, 57) |
| | **P15** | every quarter of an hour (00, 15, 30, 45) |
| | **P30** | every half-hour (00, 30) |

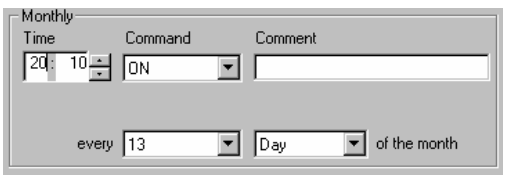
**Command:**
The possible commands depend on the address type and its parameterisation (see the ‘Command codes’ table).




**Comment:** maximum of 32 characters

**Day selection:**
Check the boxes  = active

## Monthly:



**Time:**

| | | |
|---|---|---|
| Hour: | **0-23** | Time: hour |
| | * | every hour |
| Minute: | **0 - 59** | time: minute |
| | **P4** | every four minutes (0, 4, 8, 12, 16, ...) |
| | **P8** | eight times per hour (3, 11, 19, 27, 33, 41, 49, 57) |
| | **P15** | every quarter of an hour (00, 15, 30, 45) |
| | **P30** | every half-hour (00, 30) |

**Command:**
The possible commands depend on the address type and its parameterisation (see the 'Command codes' table).

**every:**
day: **1 - 28** day of the month

**Comment:** maximum of 32 characters

#### 2.5.2.4.4 Entry in the list

If all the parameters are correct, they must be transferred to the list line by line.

Press the **'Apply'** button to transfer the data into the list. You can perform other parameterisations for this address directly.
Press the **'OK'** button to transfer the data into the list, and the properties tabs will be closed.
Press the **'Cancel'** button if you do not want to transfer the last data that you parameterised, and the properties tabs will be closed.

#### 2.5.2.4.5 Edit commands

You can edit the command lines of a time profile using the 'Copy', 'Add', 'Delete' and 'Delete all' commands.
To do this, select the command line(s) that you want, open the context menu and select the command.

## 2.5.2.5 House addresses with several time profiles

Several time profiles can be assigned to one house address in novaPro32. However, only one time profile is ever active in the automation station.
Use several time profiles per house address if you want to run a different time programme on the automation station in a particular season, for example. This enables you to prepare the time programme in advance on your PC so that you can load it into the automation station at the relevant time. The old settings will then stay saved on your PC (in the old time profile). This means you can always refer back to the old settings.

You can edit the time profiles with the commands from the 'Edit time profile' sub-menu of the time profile context menu (see Illustration2-69).

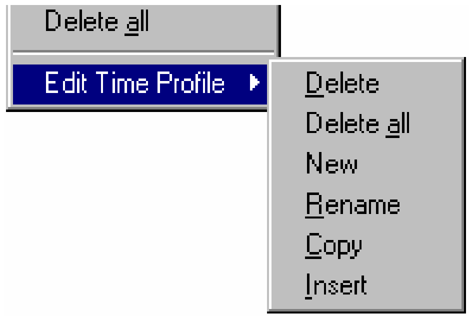



Illustration2-69: The 'Edit time profile' sub-menu

## 2.5.2.6 Send to AS

After you have finished parameterising the address you want, the data must be sent to the AS.

Press the right-hand mouse button and click on '**Send**'.

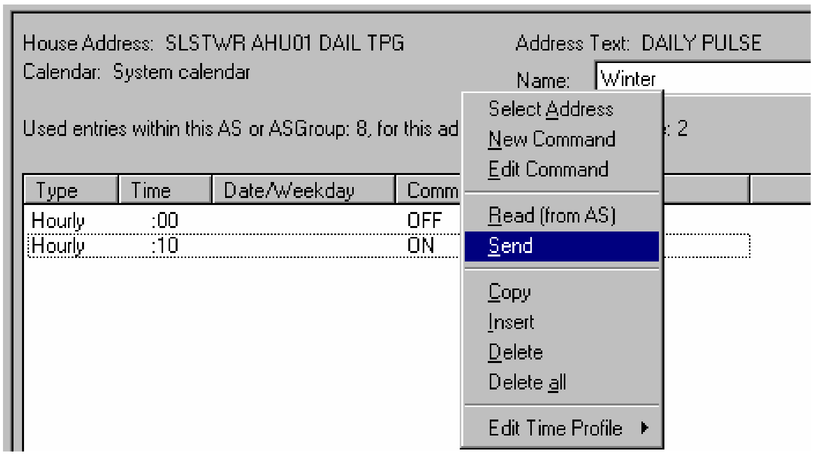



Illustration2-70

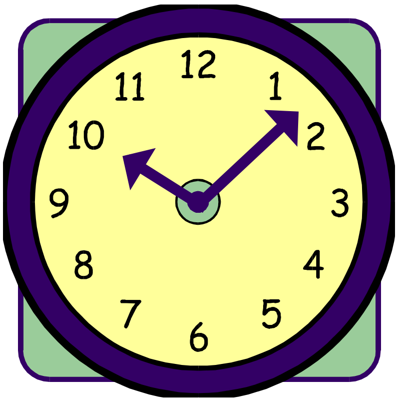
The warning shown opposite appears before the download:




Illustration2-71

- Confirm entries with '**OK**'.
  The data will be sent.
- Press '**Cancel**' to exit without sending.

## 2.5.3 Synchronise AS clocks



In every automation station of the EY3600 system, there is an independent time basis. All time-based functions of the station access this time basis.

Examples:
- Time profiles
- HDB entries
- Event Publisher

To call up the function to synchronise all the clocks in a network, go to the 'File | Configuration ➔ AS network synchronisation' menu.

In the 'AS network synchronisation' window (see Illustration2-72), press the 'All AS networks' button to set the times of all the automation stations in the project to the PC's time.

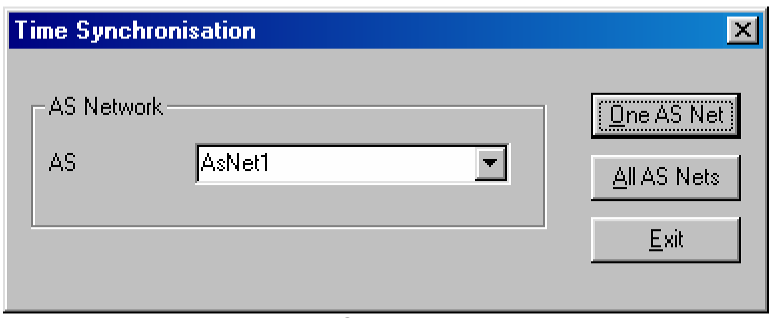


Illustration2-72: AS network synchronisation

## 2.5.4 Calendar



The calendars form the basis for the time programmes of the EY3600 system.

The AS calendar serves as the basis for the automation station time programmes; once it has been configured successfully in **novaPro32**, it is loaded into the automation stations; this means that the calendar is stored in the automation stations. This guarantees that the time programmes will run correctly, regardless of novaPro32's operating status. The system calendar is assigned to all the automation stations by default.

With the **novaPro32** calendar configuration, you can assign a substitute day to every day within 2 years (even and uneven year numbers); this means that you can assign ‘Sunday’ as the substitute day of the week for the public holiday on 25 December. For all time programmes based on the day of the week, 25 December will then behave like a Sunday, regardless of the actual day of the week on which it falls.
As well as the normal days of the week (Monday to Sunday), eight special days are available. The special days can be called up within the time programmes like days of the week. They can be used to define exceptional days for time programmes based on days of the week.

You can open or edit a calendar on the basis of your user rights.

In **novaPro32,** you can parameterise as many AS calendars as you want, and you can load them into the automation stations as required.

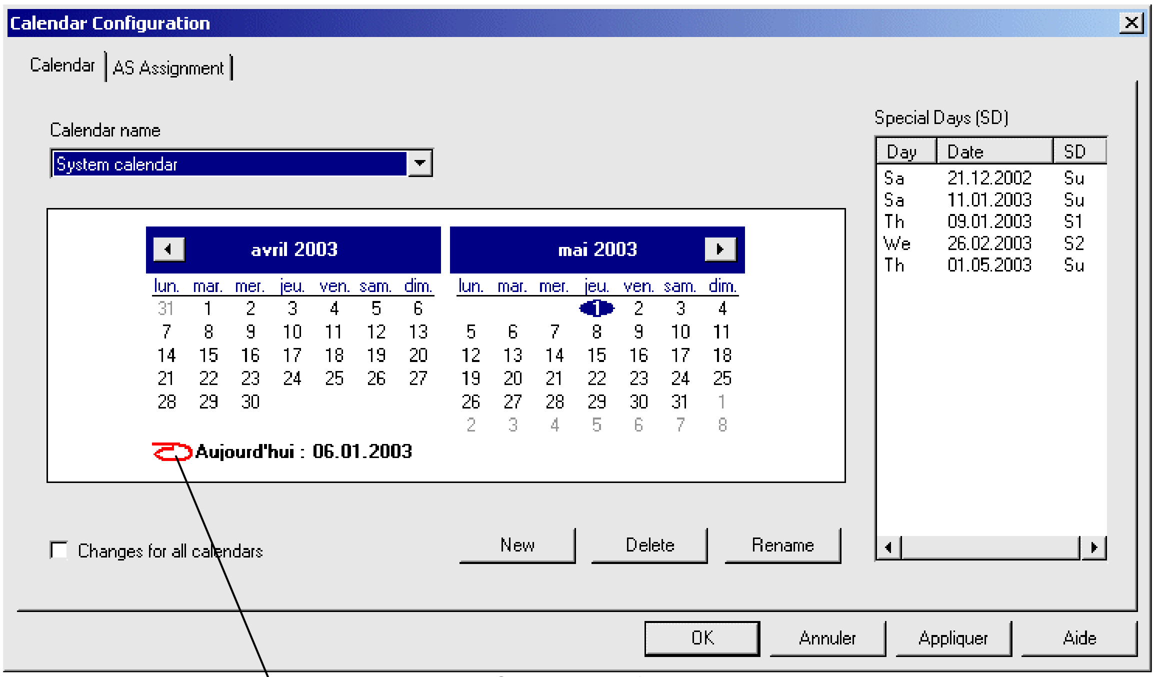



*Illustration2-73: Calendar configuration, overview*

### 2.5.4.1 Create a new calendar

Use the 'File | Configuration ➔ Calendar' menu to go to the calendar configuration. On the 'Calendar' tab, select the calendar you want in the 'Calendar name' box.
In **novaPro32,** you can parameterise as many AS calendars as you want, and you can load them into the automation stations as required, or you can define different calendars for various automation stations.

- Enter a new name in the 'Calendar name' box.
- With the left-hand mouse button, click on the 'New' command button ➔ the new calendar is created.

### 2.5.4.2 Delete a calendar

- Select a calendar in the 'Calendar name' box.
- With the left mouse button, click on the 'Delete' command button

### 2.5.4.3 Rename a calendar

- Select a calendar in the 'Calendar name' box.
- Enter a new name in the 'Calendar name' box.
- With the left-hand mouse button, click on the 'Rename' command button.
- The calendar will be saved under the new name.

Note:
The system calendar cannot be renamed!

## 2.5.4.4 Assign a substitute day

You can assign a substitute day to any day of the year. To do this, use the mouse to select a date, and then assign a substitute day to the date with the help of the 'Select Day' window.
You can choose the substitute days from the 7 days of the week (Monday to Sunday) plus 8 special days.
The 'Substitute Day (SD)' field lists all dates which have substitute days assigned to them.

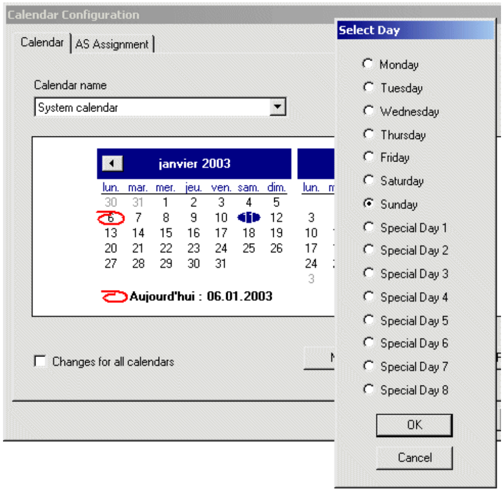



Illustration2-74: Assigning a substitute day

## 2.5.4.5 Deleting a substitute day

- With the mouse, select the date whose substitute day you want to delete.
- With the help of the 'Select Day' window, assign the real day of the week. The date will immediately be deleted from the 'Substitute day (SD)' field.

## 2.5.4.6 Assign an AS to a calendar

An automation station is always assigned to a calendar. Every automation station is assigned to the system calendar by default.
To assign a station to another calendar, it is advisable to proceed as follows:

- Select the 'AS Assignment' tab
- Select the system calendar in 'Calendar name'.
- From the list on the right, select an automation station and use the '<' command button to move it into the 'AS not belonging to any calendar' field.
  The automation station is temporarily not assigned to any calendar.

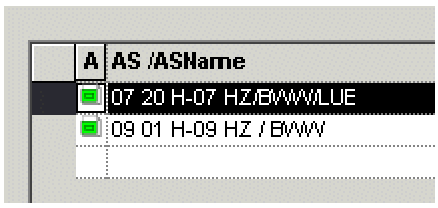



Illustration2-75

When you exit from the calendar configuration, all automation stations in the field 'AS not belonging to any calendar' are automatically assigned to the system calendar.

- Select an AS calendar in 'Calendar name'.
- From the list on the left ('AS not belonging to any calendar'), select an AS and use the '>' command button to move it into the right-hand field.
- Click on the 'Send' command button to load the new calendar into the automation station.

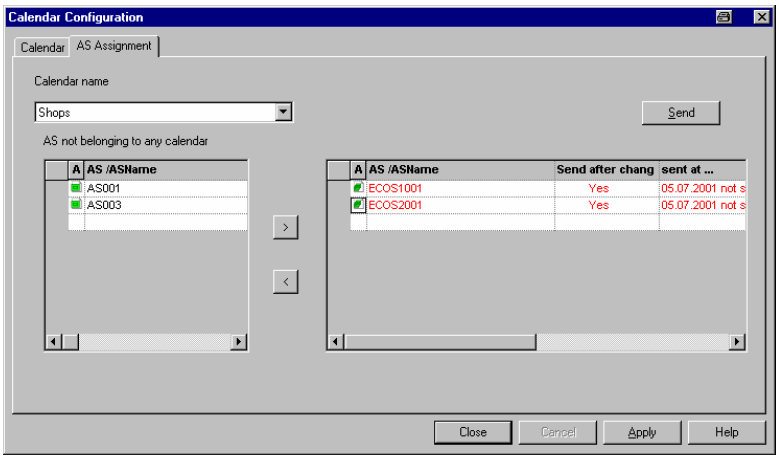



Illustration2-76: Assigning an automation station to a calendar

## 2.5.4.7 ‘Send after change’ parameter:




Fig. 2-77: Parameters ‘Send after change’

Use the ‘Send after change’ parameter to specify whether the calendar should automatically be loaded into the assigned automation station if there is a change. This parameter is set to ‘No’ by default.
If the parameter is set to ‘No’, you must trigger the calendar download into the assigned automation stations manually, by clicking on the ‘Send’ button.
Automation stations or AS groups which do not respond when the calendar is loaded are marked in red. In this case, please check the data connection to the stations mentioned.

Example - Illustration2-76

In the example mentioned, the automation stations designated as AS2 and AS3 are assigned to the calendar designated as ‘Business’. If there is a change, the calendar is immediately loaded into automation station AS2 (the ‘Send after change’ parameter is set to ‘Yes’).

However, the calendar is not automatically loaded into automation station AS3 (the ‘Send after change’ parameter is set to ‘No’). With the left-hand mouse button, click on the ‘Send’ command button so that the calendar is loaded into automation station AS3.

Automation stations AS4 and AS5 are not assigned to any calendar. You can use the ‘>‘ command button to assign these stations to the ‘Business’ calendar.
If you do not assign the stations to a calendar and you exit from the ‘Calendar Configuration’ dialogue, the system calendar is assigned to all the automation stations in the ‘AS not belonging to any calendar’ field.

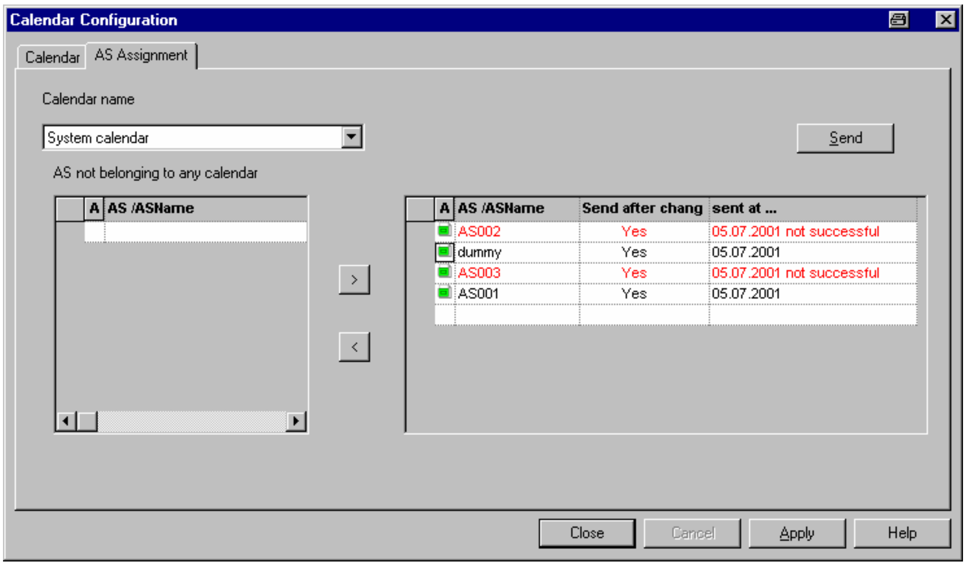


Illustration2-78: Result of ‘Send’

## 2.5.5 Alarms



Once a user has logged in, the alarm list provides him with a quick overview of the current status of the installation.

### 2.5.5.1 Show alarm list

Open your user-specific alarm list by clicking on the ‘Warning triangle’ icon in the **novaPro32** icon bar.
.

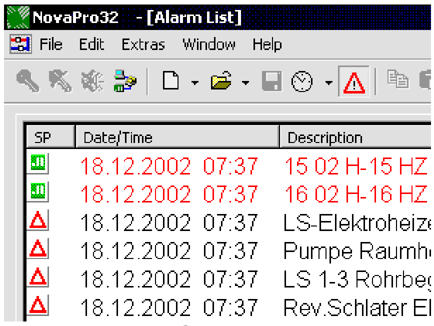


Illustration2-79: Calling up the alarm list

### 2.5.5.2 Alarm list display

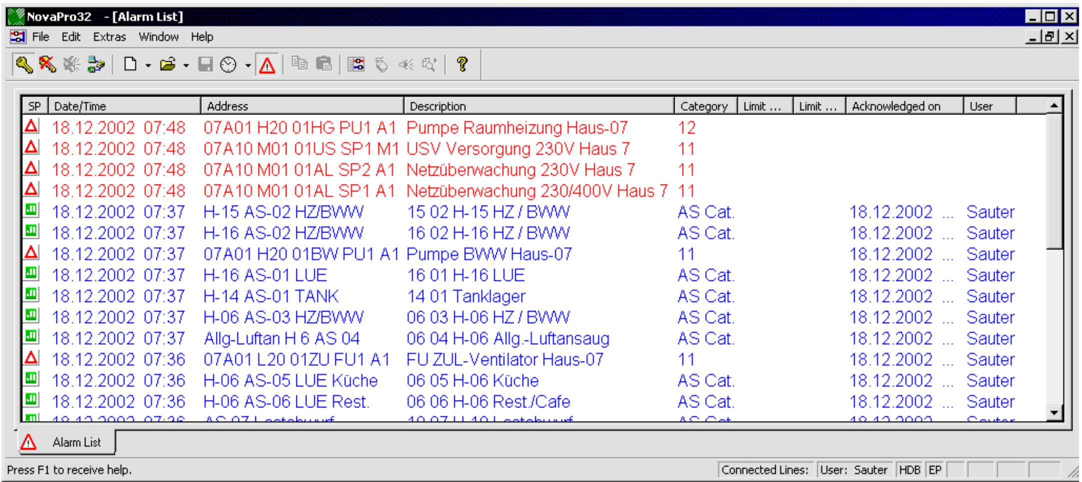


Illustration2-80: The alarm list

Date/time when alarm occurred/Designation of alarm signal/Current limit values/Name of operator who acknowledged the alarm / Precise data-point address/Designation of alarm status/Date and time of alarm acknowledgement

**red**: active alarm, not acknowledged

**blue**: active alarm, already acknowledged
The ‘Caused by’ column shows the user who acknowledged the alarm.

**black**: alarm which has already ceased without acknowledgement
Once a message shown in black has been acknowledged, the message is deleted from the alarm list.

- You can change the order within a column (ascending or descending) by clicking in the header (as in Windows Explorer).
- The order within the ‘Status/value’ column depends on these 3 statuses:
  (1) alarm not acknowledged
  (2) alarm acknowledged
  (3) return to normal status, not acknowledged

  and it can be specified as follows:
  the first click selects order [1 - 2 - 3];
  the second click selects order [3 - 2 - 1].
- As in Windows Explorer, set the column width by dragging the column borders with the mouse while keeping the left-hand button pressed down.
- Use ‘drag and drop’ to position the columns

### 2.5.5.3 Call up alarm list automatically:

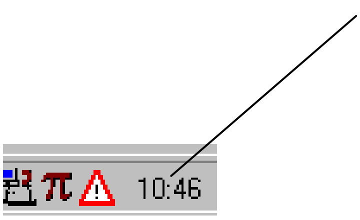
If an alarm occurs, the alarm list is automatically shown on top.

### 2.5.5.4 Call up alarm list manually:

Click on the 'Alarm list' icon (warning triangle).

### 2.5.5.5 Working with novaPro32 in the background

After the programme has been started and the alarm list has been displayed, **novaPro32** can be run as a background application in Windows. A warning triangle in the Windows task bar will alert you if an alarm occurs while you are working with another Windows application (such as Office software) in the foreground.




**Warning triangle**

| | |
|---|---|
| red triangle: | there is at least one unacknowledged current alarm. |
| blue triangle: | there is at least one acknowledged current alarm, but no unacknowledged current alarms. |
| black triangle: | there is at least one alarm which has not yet been acknowledged, but is no longer current (but there is no current alarm, either acknowledged or unacknowledged). |
| green triangle: | the alarm list is empty. |

Illustration2-81: What the warning triangle means

### 2.5.5.6 Operating the alarm list

#### The context menu

Click with the right-hand mouse button on an alarm message, and the context menu will appear.

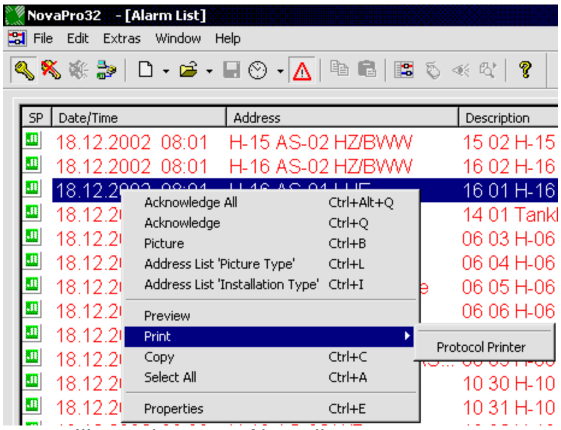



*Illustration2-82: Alarm list context menu*

Acknowledge All: All alarm messages that are current at this time are acknowledged. The date and time of the acknowledgement are entered in the 'Date/Time' column. The operator's user name is entered in the 'Caused by' column.

Acknowledge: Only the selected alarm is acknowledged.

Plant schematic: This automatically calls up a picture where the selected datapoint occurs. If the datapoint occurs in several pictures, a selection is shown.

Address List: "Picture": Opens an address list based on a picture. In the next dialogue, select the **novaPro32** picture whose dynamised addresses you would like to show in list form.

Address List: "Installation Type": All addresses in the installation where the alarm occurred are shown in the form of an address list.

Preview: Call up the alarm list print preview.

Print: The alarm list is printed, based on the current template, on the printer that was defined as per Chapter 12 in the configuration manual (7000904003).

Copy: The selected alarm messages are copied to the clipboard. This is a simple way of transferring the messages into a word processing program.

Mark all: All the entries in the alarm list are selected and shown as marked.

Properties: Displays the alarm list properties.

### 2.5.5.7 Acoustic alarms

An acoustic signal can be used to denote the occurrence of an alarm in novaPro32. The signal sound is reproduced by the PC sound card in this case.
Depending on the configuration, you must confirm the alarm sound by pressing any key, by clicking on the alarm icon (see the arrow in Illustration 2-83) or by acknowledging the alarm.

If an automatic alarm repeat is set, the signal sound will be repeated after an adjustable time (such as 15 minutes) once it has been confirmed, until the alarm is acknowledged or until it returns to the normal status.

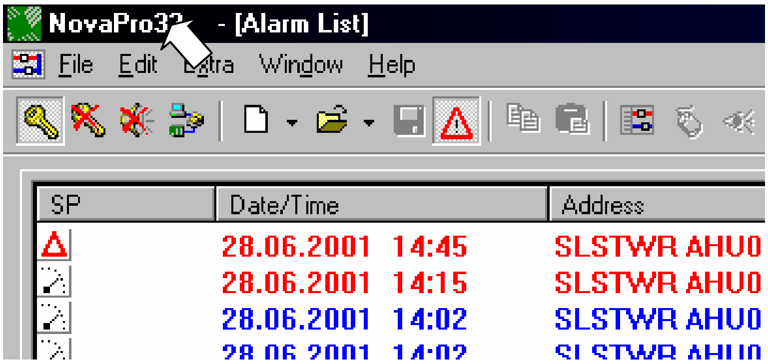


Illustration2-83: Confirming an acoustic alarm

## 2.5.6 Trend / Historical database



**novaPro32** offers you a convenient tool to display measured values, status and alarm messages in graphic form. This enables you to record current process values as well as historical data in the form of charts or tables.

Charts show the progression of process values over time in graphic form. You can also refer to the values stored in the historical databases, or you can show the current process progression online.

You can define, edit and view a chart. It is displayed in a window where up to 10 activities (addresses) can be shown at the same time, each with its own colour and form.

### 2.5.6.1 Show new HDB/Trend

Open a new HDB/Trend using the 'File | New ➔ HDB/Trend' menu, or the 'New HDB/Trend' command in the context menu of the **novaPro32** Document Browser, or select the icon in the icon bar.

The window that will now appear on the screen consists of 3 frames: Title Lines (at the very top), Graphic (left) and Table (right) (see Illustration2-91).

Use the context menu (right-hand mouse button) of the 'Title' frame to go to the Properties window, where you can specify all the settings such as the address selection, type of presentation, time slot, etc.

The 'Address' tab shows an overview of all selected addresses (see **Fehler! Verweisquelle konnte nicht gefunden werden.**).

Mouse-click on the 'Addresses' command button to go to 'Address Selection' (see Illustration2-85).

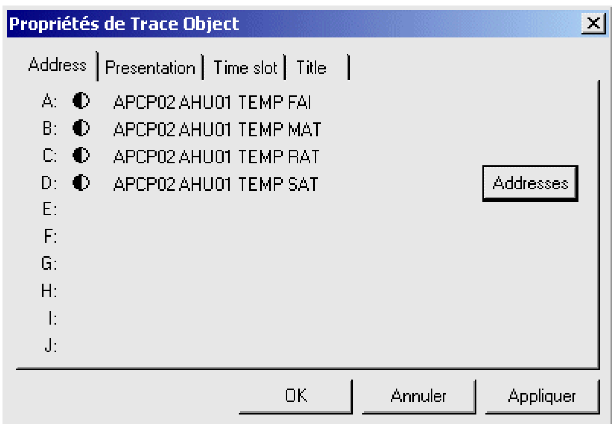


Illustration2-84: 'Address presentation' tab

In the list of all addresses in the address selection, use the left-hand mouse button to mark one address, and copy it into the list of selected addresses with the help of the 'Main function' or 'Extra function' command buttons.

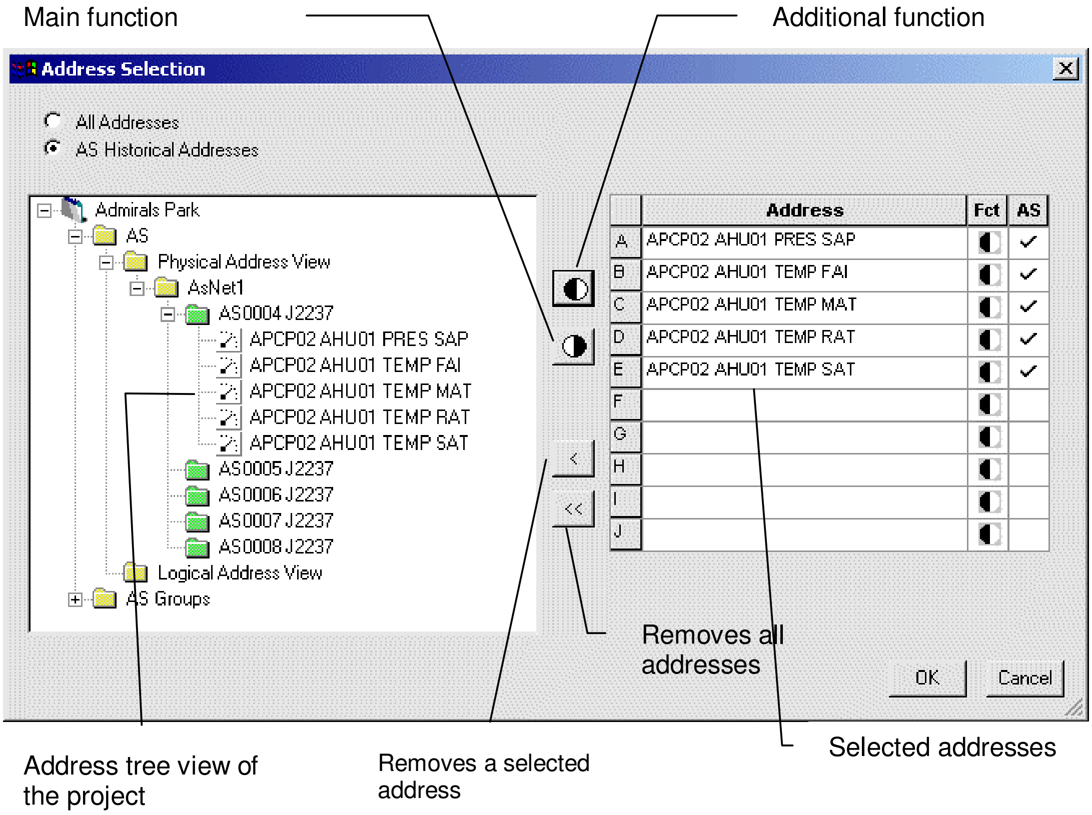



Illustration2-85: HDB/Trend-address selection

Use the ‘Address Presentation’ tab to specify the colour and line type in the graphic for each selected address. The ‘Decimal Places’ box defines the way numbers are shown in the table.
At ‘Graphical Presentation’, you can indicate a linear correction for analogue values, so that several measured values can be adjusted to one common Y-axis.
The ‘Connection’ field enables you to portray a curve with either a point-to-point or a stepped connection.

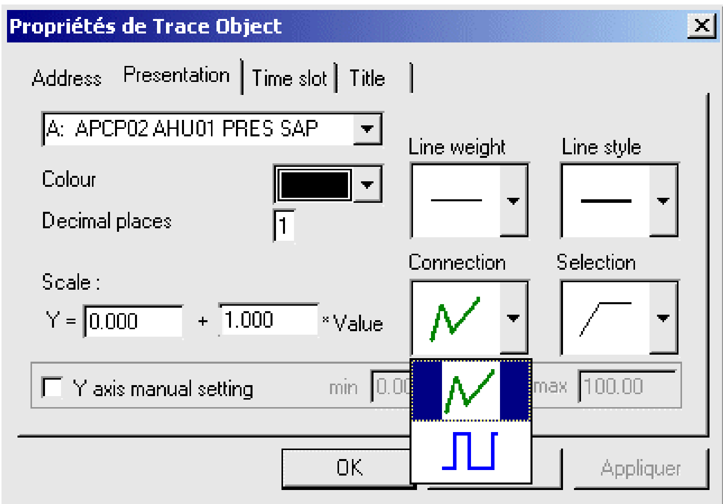



Illustration2-86: ‘Address Presentation’ tab

The ‘Time Slot’ tab defines the period of time to be shown.
With **Request Type ‘Historical Data (HDB)’,** you can set a start date and an end date to define a period of time from which historical data should be shown. In this operating mode, you are only shown data from the historical database (HDB) of the controller if they are still available in the ring memory (FIFO) of the controller.
With **Request Type ‘Trend’,** you define a period of time. This period determines the time span of the display window. The graphic will then show all spontaneous messages from the selected addresses from the current time onwards.

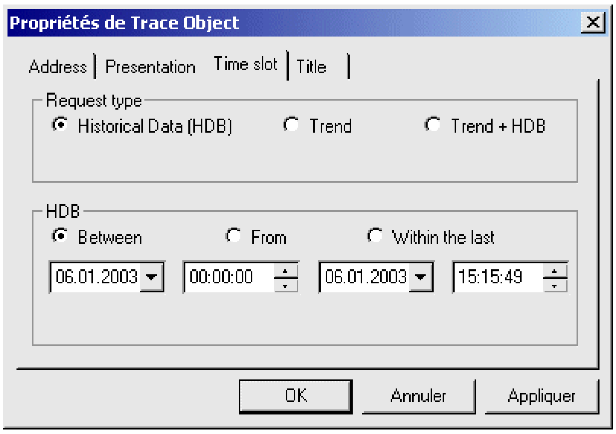


Illustration2-87: ‘Time slot’ tab

With **Request Type ‘Trend + HDB’,** data from the past are read from the historical database and displayed. The display is automatically continued for any desired period with spontaneous messages from the selected addresses.

Use the ‘Title’ tab to define the header for the HDB graphic. In the ‘Key’ area, you can select attributes such as the address, address text and units which are to be used to identify the selected addresses.

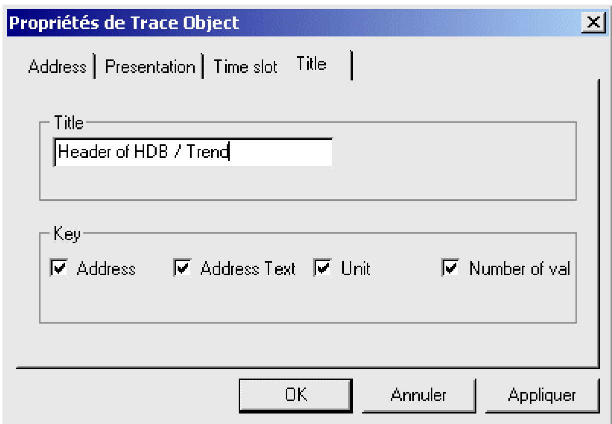


Illustration2-88: ‘Title’ tab

Finally, you can save the configuration for HDB/Trend on the PC's hard disk. To do this, select the ‘Save’ command from the ‘File’ menu and enter a designation in the dialogue that appears now. The HDB/Trend configuration is automatically stored in the ‘HDB/Trends’ folder of the novaPro32 Document Browser (see Illustration2-89).

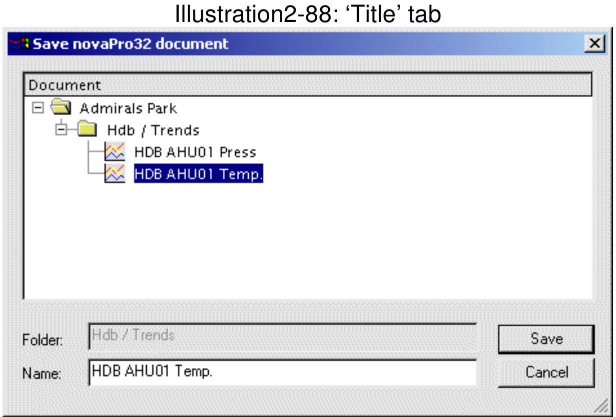


Illustration2-89: ‘Save’ dialogue box

Please note: No data (such as measured values, status, etc.) are saved. Only the configuration (address selection, address presentation, time slot and title) is saved.

## 2.5.6.2 Open HDB/Trend

To open a saved HDB/Trend configuration, use the 'File | Open ➔ HDB/Trend' menu or the 'Open' icon in the icon bar, or double-click with the left-hand mouse button on the relevant file in the novaPro32 Document Browser.

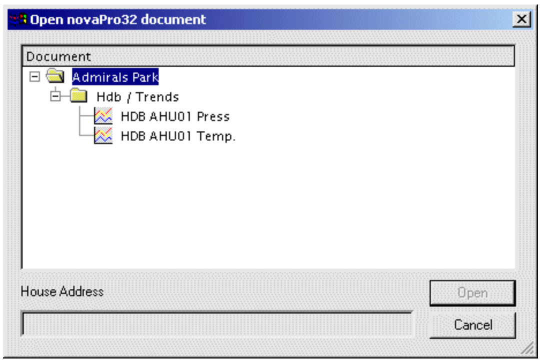
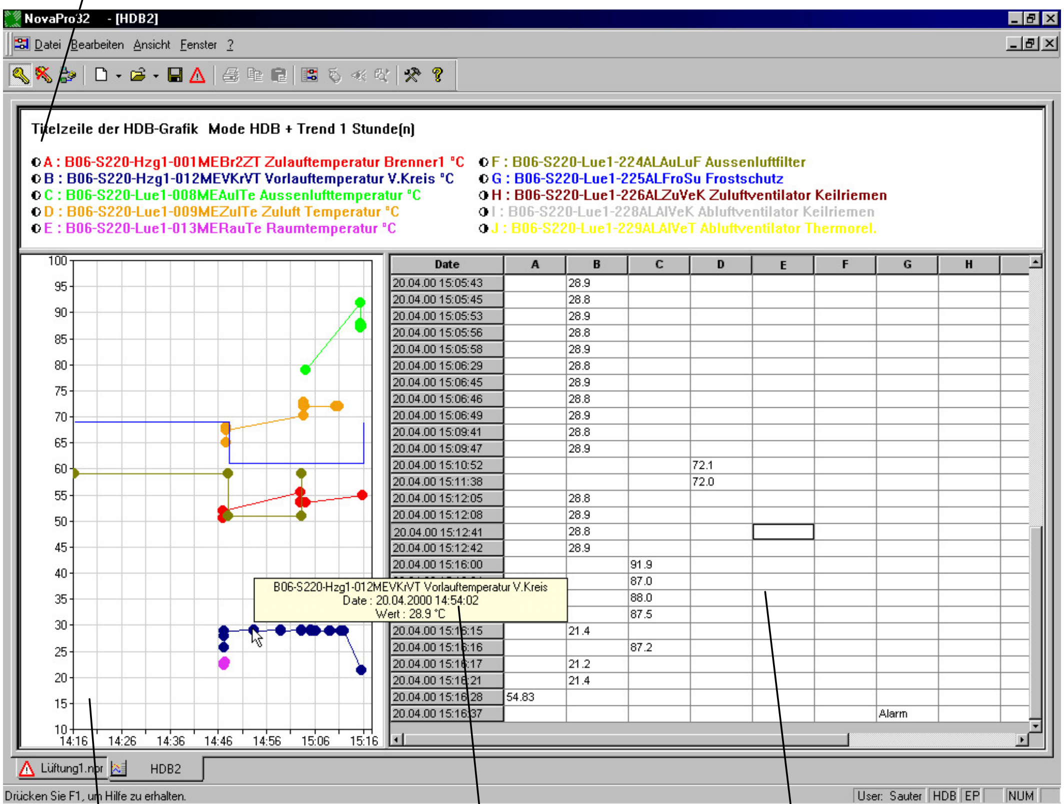



Illustration2-90 List of configured HDBs

An HDB/Trend file of this sort does not contain any data. The file only contains the settings made in the Properties window, such as the address selection, type of presentation, time slot, etc. After the file is opened, the data are read by the HDB server and the automation stations.

Frame: Titelzeile mit Legende




Frame: Grafik

Adress-Tooltip

Frame: Tabelle

Illustration2-91: HDB / Trend as graphic and table

## 2.5.6.3 Working with HDB/Trend

**Frame edges:**
You can adapt the presentation of the HDB/Trend window to your individual requirements. To do this, keep the left-hand mouse button pressed down and drag the frame edges to the positions you want. When you close the HDB/Trend window, you can save the window configuration you set, so that the view you want is shown immediately when you call the window up later on.

### 2.5.6.3.1 Edit graphic zone

**Zoom:**
You can enlarge a graphic shown in the left frame as you wish, to view it in detail. To do this, keep the left-hand mouse button pressed down and mark the section you want. The marked section will immediately be shown in enlarged view.

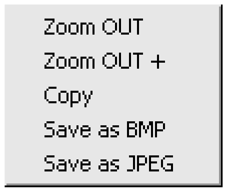


Illustration2-92

The 'Zoom Out' command in the context menu reverses the last zoom action – in other words, you return to the previous view.

**Tool tip**: View the house address, the value and the time of origin of the chosen value on the curve (break point of a curve or entry point of a stepped connection; see Illustration2-86: 'Address Presentation' tab).

**Copy:**

The 'Copy' function in the chart and table context menu allows data exchange with other programmes.

'Copy' in the chart context menu places a copy of the graphic on the Windows clipboard. This enables you to paste and edit the graphic in another Windows program.

'Copy' in the table context menu copies the table cells you have just selected onto the clipboard. This makes it easy to paste the data into Microsoft Excel where you can continue editing them.

### 2.5.6.3.2 Edit table sector

**Copy**: With the aid of this context menu, you can paste a selected number of lines into another document (e.g. in Word) via the clipboard.



Illustration2-93
Context menu - table sector

**Export**: This makes it possible to save a table of values (shown on the screen) as a .txt file under a defined name.

Information:
To ensure that further processing of exported values tables is efficient, we advise you to use a monitoring and optimisation tool such as **EY3600 novaPro EBal**.

### 2.5.6.3.3 Edit title and legend sector

**Export & print-out:** With the aid of this context menu, you can print out and export the graphic with the title and the legend (see Illustration2-95 ).

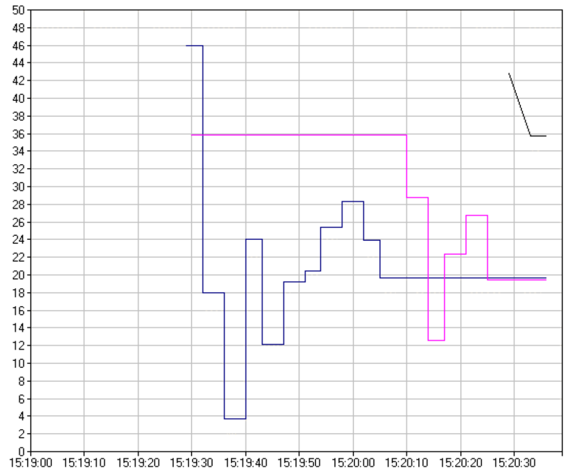



Illustration2-94
Context menu - title sector

**novaPro32**

**Header of HDB graphic**

Mode BHD de 25.09.02 15:19:00 à 25.09.02 15:20:36




- A : Splendid -3-TM-00 T° Extérieure °C Pas de valeur
- B : Splendid -2-TM-00 T° Soufflage °C 12 Valeurs
- C : Splendid -2-TM-03 T° amb. (Salle) °C Pas de valeur
- D : Splendid -2-TM-04 T° amb. (Repr. Bas) °C Pas de valeur
- E : Splendid -2-TM-01 T° amb. (Repr. Gén.) °C 7 Valeurs
- F : Splendid -2-TM-02 T° Dép. Groupe Froid °C 3 Valeurs

Illustration2-95 Exported graphic

Note:
The exported file 'HDBview.rtf' is in the Sharable_Data / System directory.

**Properties:** can be used to adapt the parameters of the viewed HDB. (See also Section 57, Show new HDB/Trend)
The manual print-out of a graphic is always outputted on the Windows default printer.

## 2.5.7 Setting up users

**novaPro32**'s functions are only accessible to authorised staff. A user identifies himself in the system with a user name and a password. The user name and password are used as an individual 'electronic key'.



The code word / password can be used to assign rights to users on an individual basis. Actions performed by the user are logged with his user name, making it possible to trace interventions in the system.

The **'File | Configuration | Generate password'** menu takes you to the overview window. Global settings (i.e. ones that are valid for all users) are made in the 'novaPro32 Password Generation' overview window.

If the password function is switched off, all users will obtain unrestricted access to all the functions in **novaPro32**.

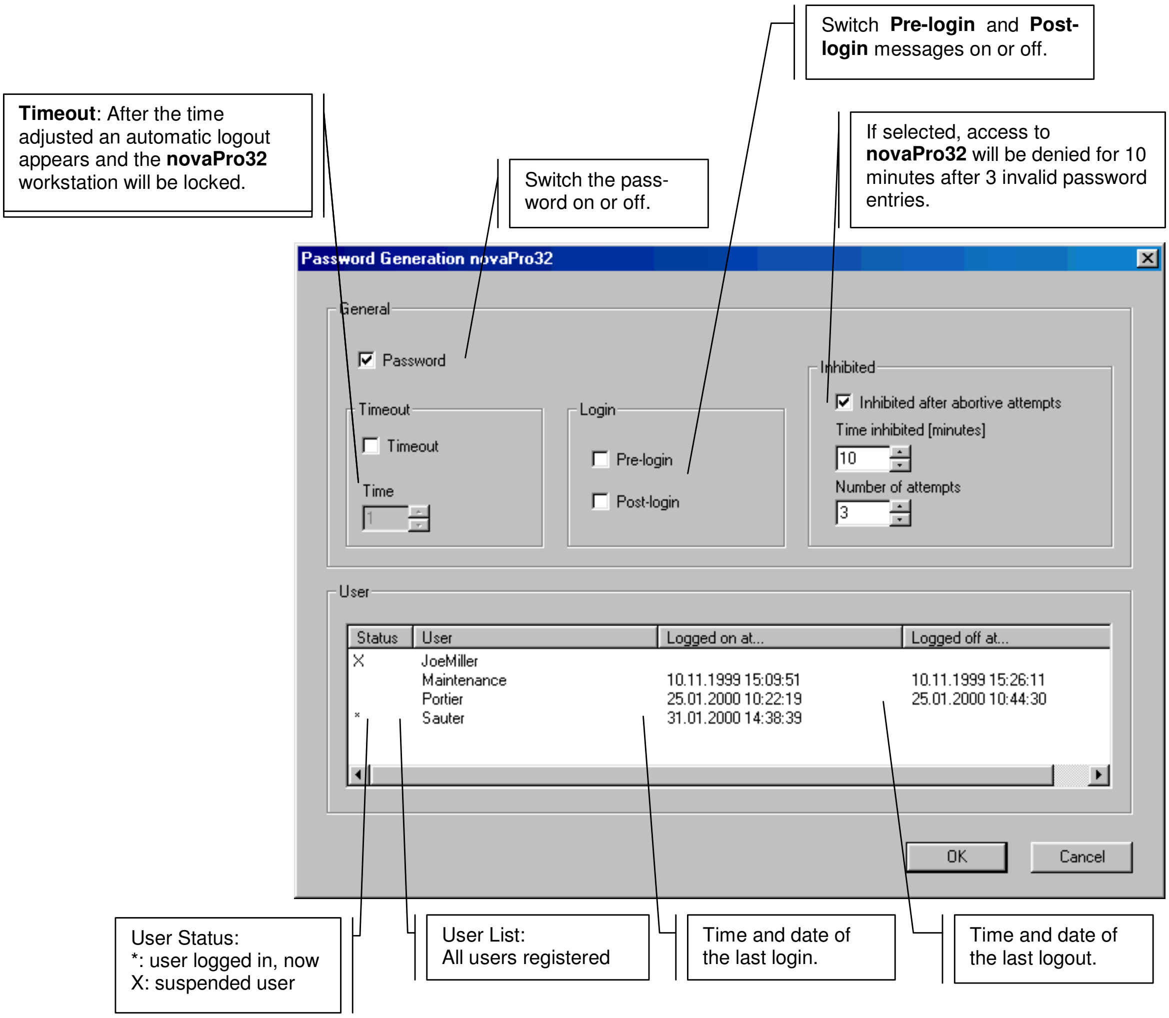
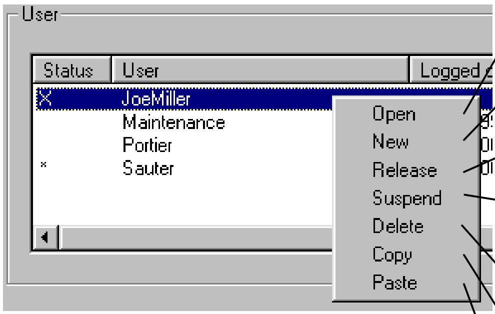



Illustration2-96: ‘Password generation, novaPro32’

The overview window (Illustration 2-95: Overview window ‘Password generation novaPro32’), contains a list of all the users registered in the system. It also shows which users are currently logged into the system (i.e. which ones are active), and when a user last logged in or out.

Information:
Only users with the ‘Supervisor‘ or ‘Password generation‘ authorisation can assign rights to other users, delete rights, set up or delete new users, or suspend/release users who are already registered.

Use the right-hand mouse button to go to the context menu for the overview window (see Illustration 2-97: 'Password Generation' context menu). From here, you can set up new user profiles and you can also modify or delete user profiles that already exist.




**Open** the user profile selected.

Create a **new** user profile.

**Release** a suspended user profile.

**Suspend** the selected user profile.

**Delete** the user profile selected.

**Copy** the user profile selected to the clipboard.

**Paste** a profile from the clipboard.

Illustration2-97: )

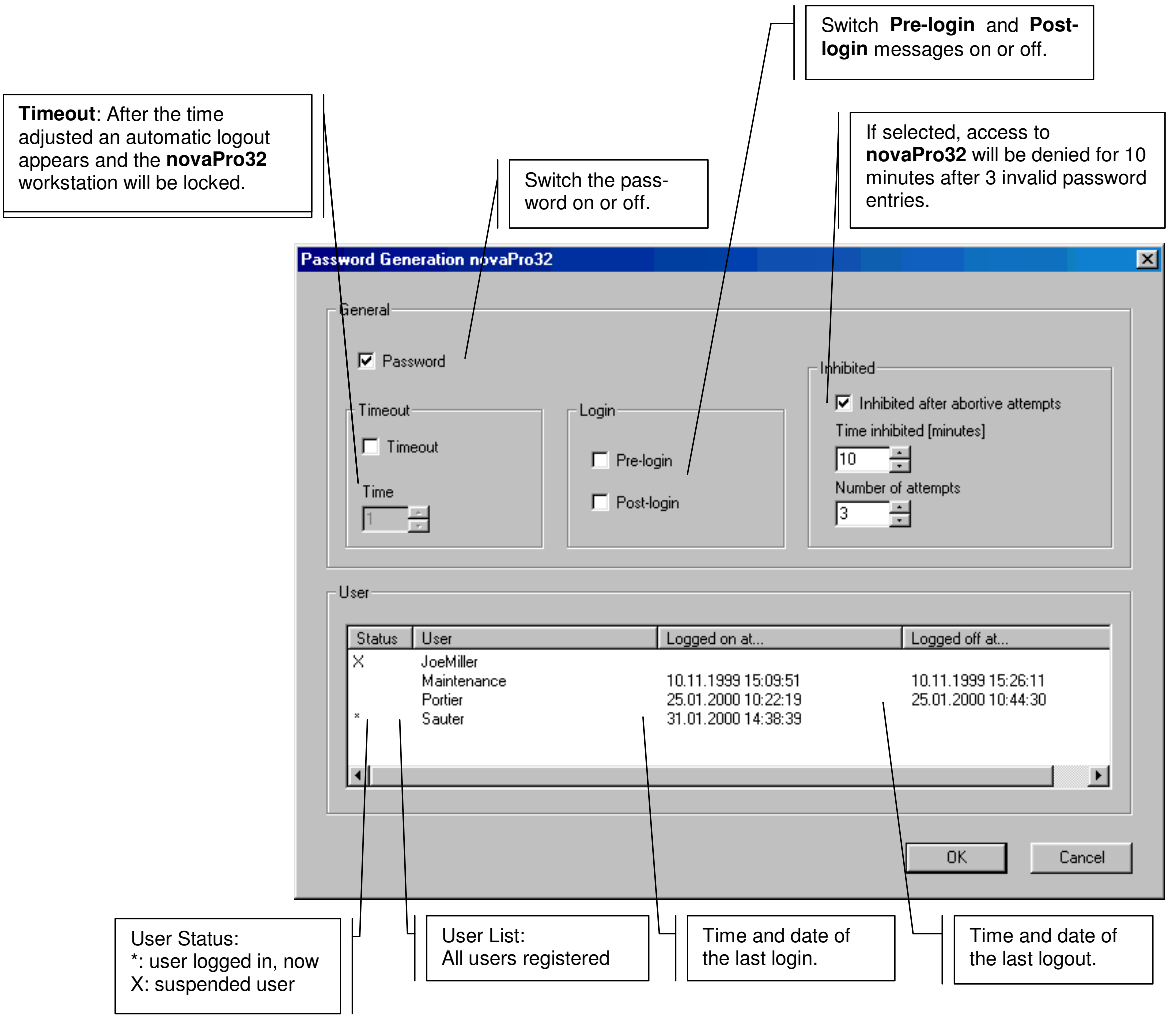



Illustration2-96: Overview window: ‘Password generation, novaPro32’

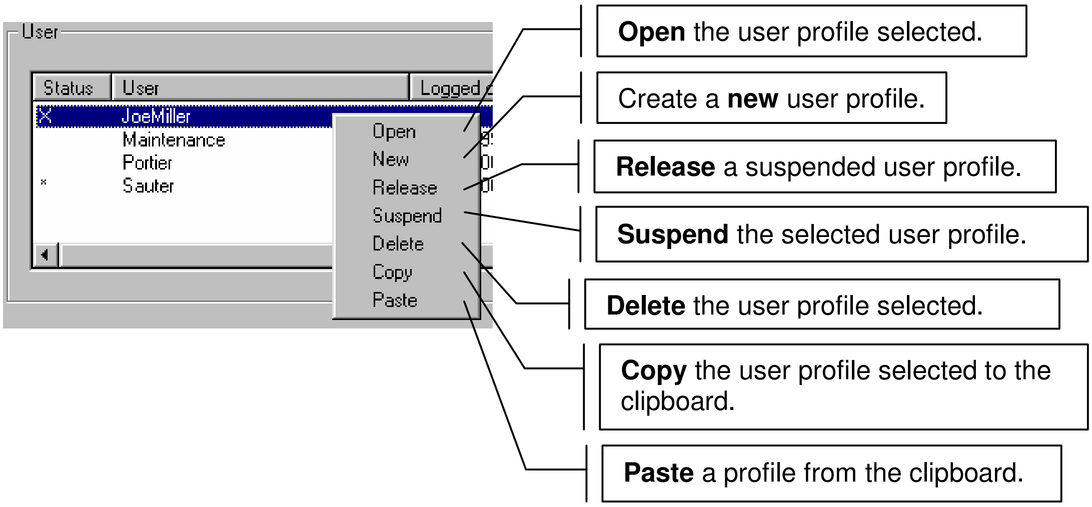



Illustration2-97: Context menu: 'Password generation'

### 2.5.7.1 Create a new user



- Use the right-hand mouse button to call up the context menu and select the 'New' command.
  You will see the 'Password properties' tabs.
- Specify the user profile with the help of the 'Password properties' tabs.

# 2.6 Options

## 2.6.1 Access to the novaNet network via modem:

You can use a normal commercial telephone modem to establish a connection between your PC and novaNet-Router EYZ291 via the public telephone network (see Illustration 2-98).[1]

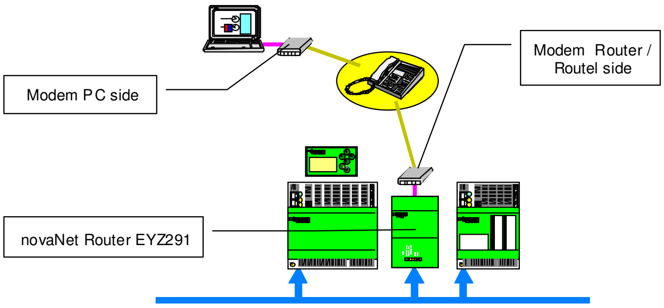


Illustration 2-98: Connection via modem

You can use the cable supplied with the modem to connect the novaNet router with a modem.

Depending on the **novaPro32** start configuration, the telephone connection to the AS network is established automatically, or else you have to make the connection manually via the 'File | Connections...' menu.

To make the connection manually, the 'Connections' dialogue will appear on the screen (see Illustration2-98).
Click on the 'Connect' button to establish a data connection with the AS network.

You can use the 'Close' button to terminate a data connection that already exists. **novaPro32** logs off the AS addresses and the modem terminates the telephone connection to the AS island.

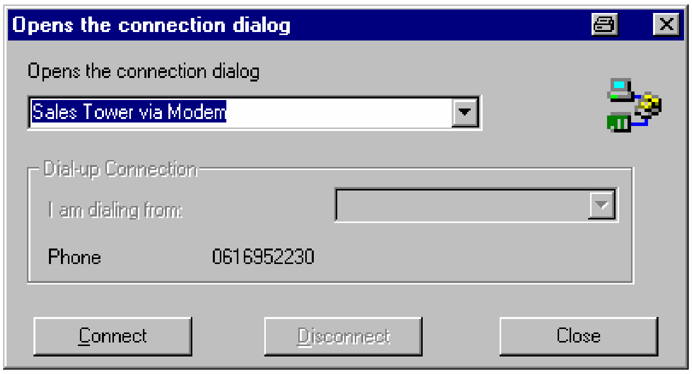
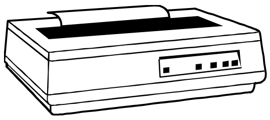
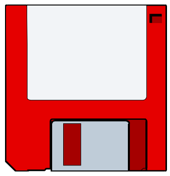


Illustration2-98: Establishing a connection with an AS island

[1] Installation and configuration of the modem connection: see EY3600 novaPro32 Installation Manual. 7000915 001

## 2.6.2 Setting up an alarm (online messaging)





Online messaging covers the alarm and reporting system. Configuration is based on address groups and the type of event.

The reporting periphery shown in Table 1 is supported:

Table 1: Reporting periphery that is supported

| | |
|---|---|
| Printer | Line printers supported by Windows such as Epson FX, etc. |
| Fax | Faxes can be sent via the MAPI fax client (Windows) |
| E-mail | E-mails can be sent via the MAPI e-mail client (Windows) |
| File | Messages are saved in a freely configurable text file. The file can be used as an interface with third-party providers' messaging systems. |

### 2.6.2.1 Configuration

Menu (File | Configuration ➔ Online Messaging) opens the tabs for the configuration of the alarm and reporting system (see Illustration2-99).

Information:
When you configure online messaging for the first time, it is advisable to configure the ‘Output medium’ and ‘Output template' tabs first.
Complete the configuration on the 'Assign output medium' tab by assigning an output medium and an output template to an address group.

**Attention**:
After the 'Online Messaging' configuration has been completed, you will need to restart. When you restart, the EP server is initialised with the new settings.

## 2.6.2.2 The 'Assign output medium' tab

The 'Assign output medium' tab comprises two sections:

1. Definition of the address group (logical group)

**Meaning of the buttons:**

| | |
|---|---|
| New | Creates a new address group. |
| Open | Changes an address group that already exists (selected in the 'Logical group' field) |
| Delete | Deletes the address group selected. |
| Rename | Renames the address group selected. |
| Result | Shows all addresses defined by the group (see Illustration2-99) |

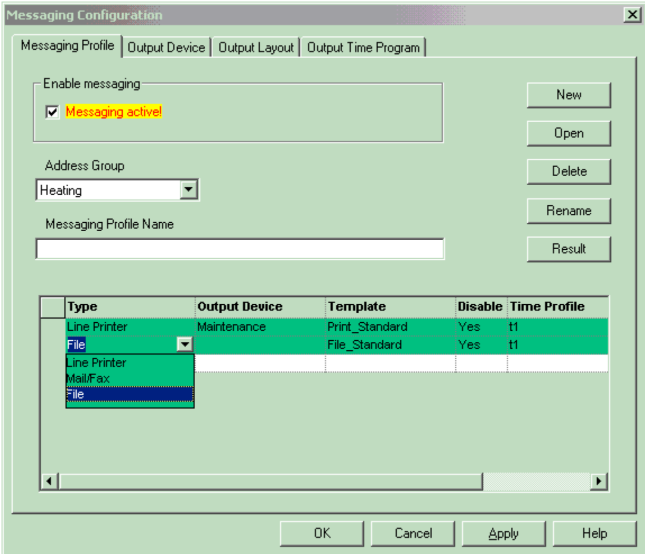



Illustration2-99: Assigning the output medium

2. Assigning the output medium and a template to an address group.
   Various output channels can be assigned to one address group with the help of an assignment table. An output channel consists of one line in the assignment table. Settings on the 'Output medium' and 'Output template' tables can be selected by mouse-clicking on the cells of the table.

Table 2:Meanings of columns in the assignment table

| | |
|---|---|
| Type | Defines the type of the output device (line printer, e-mail/fax or file are available. |
| Output devices | Specifies the output device. You can select one of the preconfigured profiles on the 'Output medium' tab (see Illustration2-100 to Illustration2-111). |
| Template | Defines the precise format of the output. You can choose from the format templates on the 'Output template' tab. |
| Disable | An output channel may be disabled temporarily.<br>Yes: Disables the channel<br>No: Enables the channel. |
| Time profile | Select an EP time profile. The EP time profile determines when the selected reporting channel is enabled and when it is disabled. |

## 2.6.2.3 The 'Output medium' tab

On the 'Output medium' tab, real devices such as printers, fax numbers, e-mail addresses, or paths and file names on data carriers can be assigned to all the available types.

The lower 'Select output medium' field lists all the output media assigned to the selected 'Output medium type'.

Depending on the preselected output medium type, the 'Edit' command button opens a configuration window.

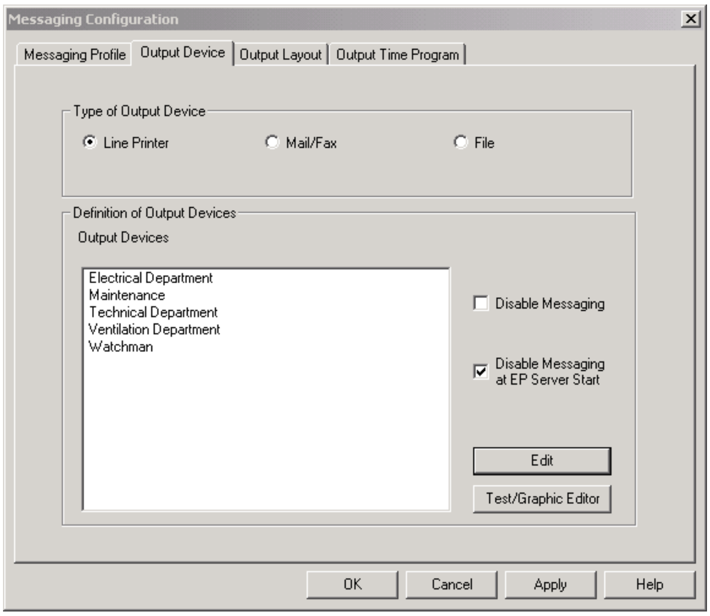



Illustration2-100: Defining the output media

Various output media can be selected using the buttons:

| | |
|---|---|
| Online printer: | see Illustration2-106 and Section 2.6.2.3.1 Online |
| Mail/fax recipient: | see **Fehler! Verweisquelle konnte nicht gefunden werden.** and EY3600 novaPro32 Manual, Installation No. 7000 915 001 |
| File | see Illustration2-115 |

If the' Disable data output' button was selected, no data are sent to the various output media.
If the 'Disable data output at EP start' button was selected, only those alarms that have reported since the system was started up are published. The messages that were edited before the application was closed are no longer published.

### 2.6.2.3.1 Online printer

Up to 5 Windows printers can be used with 'continuous paper' to print out the online messages.

**Installing an alarm printer**

**Attention**:
It is essential that you use a Microsoft driver (Win NT / 2000 or XP CD or Internet).

- Install a ‘continuous form’ printer in Windows System Manager | Printers. Select a line printer as shown in the example in Illustration2-101:

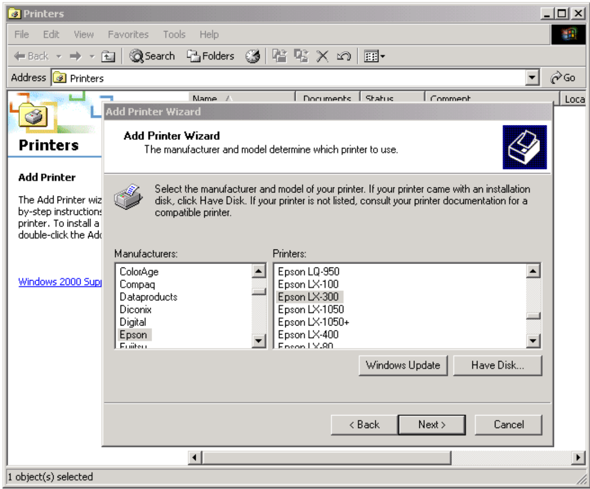



Illustration2-101 Selecting a printer in Windows NT/2000 and XP

- Name the printer
  (see Illustration2-102).

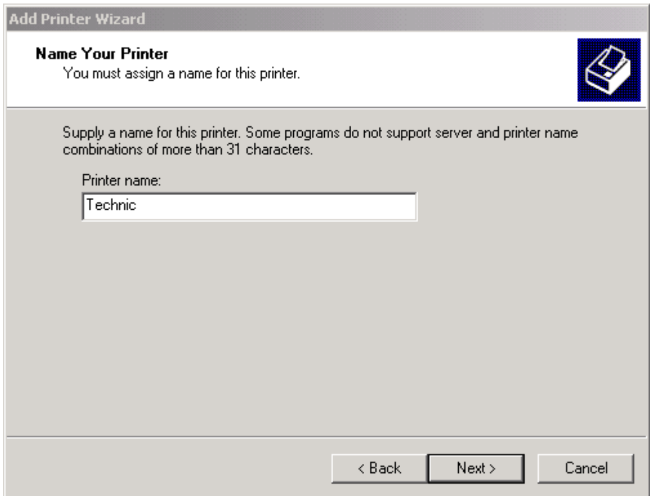



Illustration2-102: Naming a printer in Windows NT/2000 or XP

### Specific settings

- In the ‘Printers’ window of the Windows System Manager, use the right-hand mouse button to call up the ‘Server Properties’ (see Illustration 7.4).

**Attention**:
Ensure that no printer is selected when you call up 'Server Properties'!

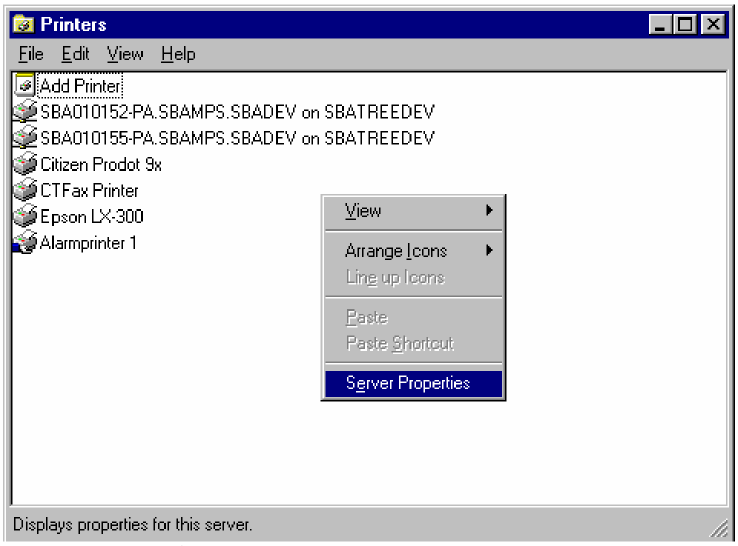



Illustration2-103: Calling up the ‘Properties’ of the Windows print server

The dimensions of the form must not exceed the margins/printable area of the printer, otherwise the form will not be available to the printer.

The paper source must be set as shown in Illustration 7.5:

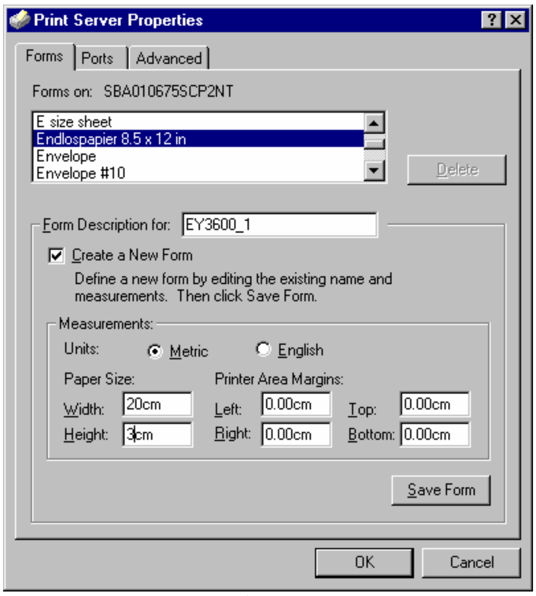



Illustration2-104 : Setting up a new paper format

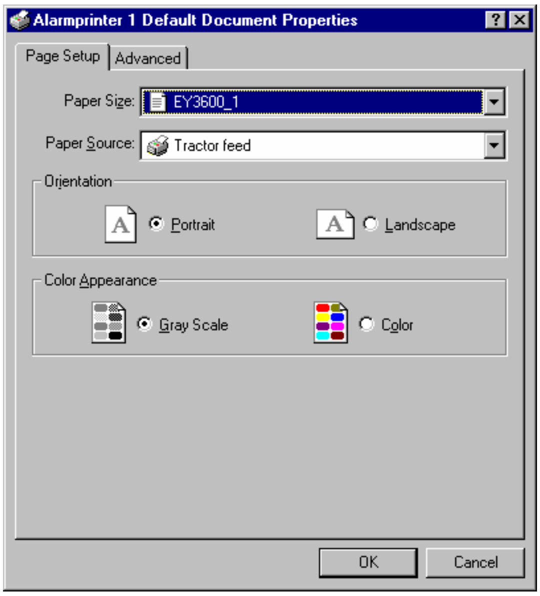



Illustration2-105 : Paper source in Windows NT/2000 or XP

- Configuration of the printer in **novaPro32** online messaging: See Section 2.6.2.3 'Output medium' tab.

Please check these points when carrying out the configuration:-

a) The printer adjustments for "Paper intake" and "Paper format"
From the printer settings, select the paper format which you set up above (such as EY3600_1). At "Paper intake" select "Tractor intake".

b) The "Paper intake" and "Paper format" in the Graphic Editor.

**Defining an online printer**

Depending on the output medium type you selected, all the assigned output media are listed on the 'Select output medium' zone (see Illustration2-100).

The 'Edit' button, see Illustration2-106 opens the configuration window.
The 'New' button is used to set the new output printer.
A network printer can also be assigned.
The printer selected in the list can be re-moved using the 'Delete' button' or amended using the 'Edit' button'.

Name of physical printer

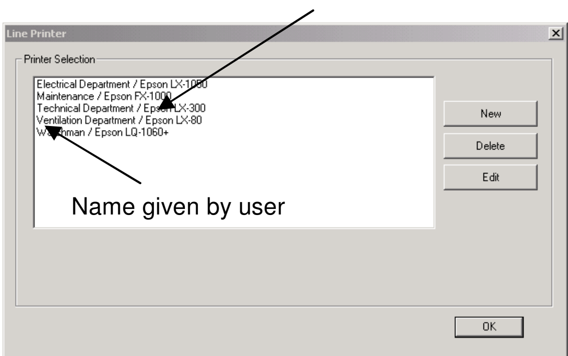



Illustration2-106 Online printers

Creating a new printer, e.g. ‘Watchman’. The ‘New’ button opens a window in which you can enter a name for the printer (see Illustration2-107).

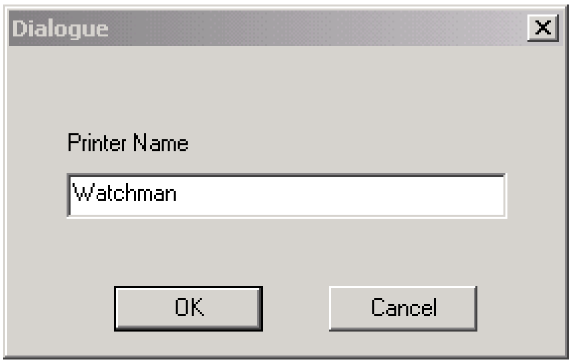


Illustration2-107 : Dialogue

On confirming with ‘OK’, the dialogue box for choosing the relevant Windows printer opens.
If you press the ‘Select...’ button, all the printers installed in Windows are listed (Illustration2-109).

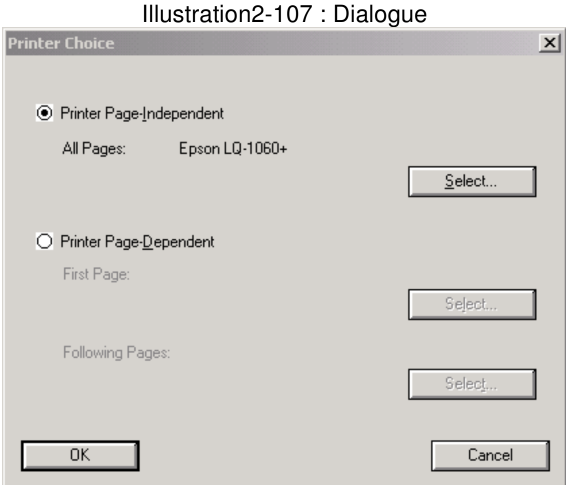


Illustration2-108 : Select printer

**Attention**:
For online messaging, it is essential that you choose the ‘Printer Page-Independent’ mode!

All the printers installed in Windows are listed in the picture, including network printers.
Press ‘OK’ to confirm your choice.

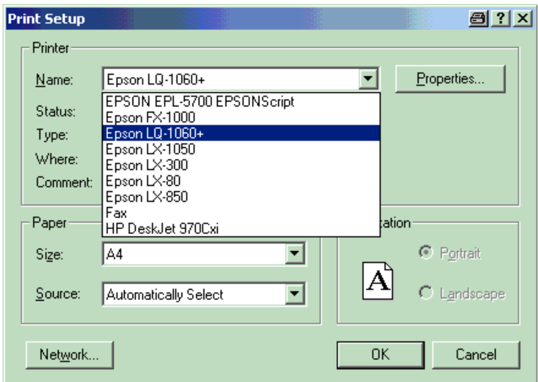


Illustration2-109 : Printer set-up

A physical printer that has already been chosen as a protocol printer cannot be used a second time, so it cannot be used as a line printer at the same time.
A message appears in this case.

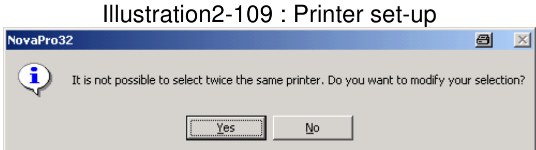


Illustration2-110 Double definition of a printer

The configured printer appears in the list (Illustration2-111).
All listed printers can be used as output media for the EP server.

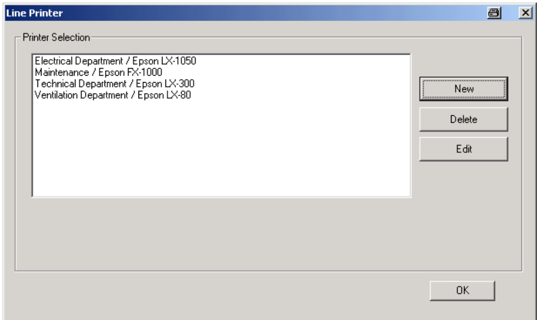



Illustration2-111 : Online printer selection

### 2.6.2.3.2 E-mail and fax recipients

On the 'Output medium' / 'E-mail recipients' tab, you will find the 'Selected output media' field where all e-mail recipients are listed. Configure recipients and senders in the 'Configure senders and recipients' window which you can open by clicking on the 'Edit' button:

- In the '**Senders**' field, enter the name and e-mail address of the sender. These two items of information are integral components of messages that are sent. The address must be in a form that is accepted by the Internet service provider.
- In the '**Outgoing e-mail server**' field, you enter the parameters for the SMTP server (address and port number). These data can be requested from the relevant Internet service provider. The default entry for 'Port' is 25.

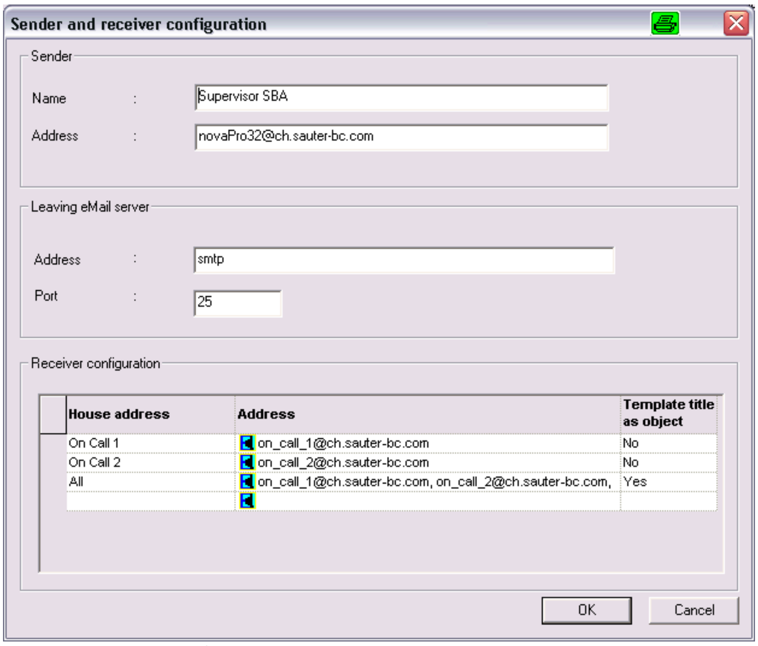



Illustration 2-112: Sender and receiver configuration

- In the '**Receiver configuration'** frame, all the configured recipients are listed. The name may be freely chosen and may be allocated either to a single recipient's address or to a group of addresses. By clicking on the blue symbol in the 'Address' » field with the left mouse button, a new recipient may be entered with in the '**Contact address(es)'** window. The column 'Template title' allows the title of the send template (which can be edited) to be inserted as the 'Subject' of the message. With some Internet service providers the title as subject may be necessary for sending an e-mail




Illustration 2-113: Contact addresses

message by SMS or fax.

- **Testing the recipients' addresses:**
  By clicking on the recipient's name with the right mouse button, a test mail can be sent to the recipient via novaPro32 and the Internet service provider.

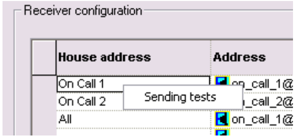



Illustration 2-114: Receiver configuration

### 2.6.2.3.3 File

All path and files for online messaging are listed in the 'File' configuration window. Left mouse-click on the blue icon in the 'Path' column to indicate a new path file name.

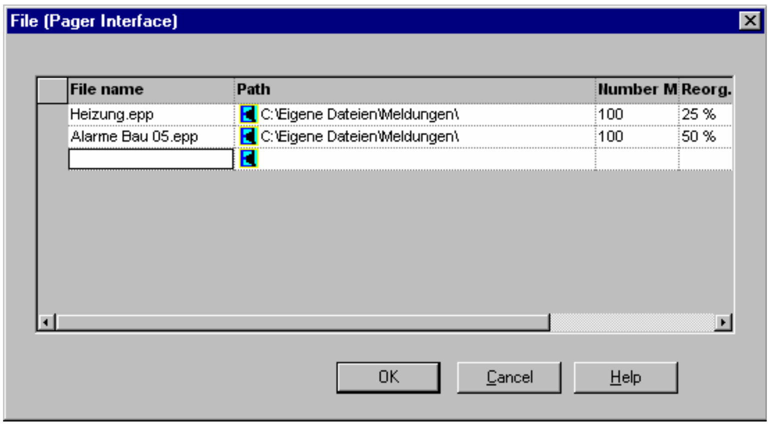



Illustration2-115: Set path and file name

The ‘Number of Messages’ column defines file size, i.e. the number of messages saved in the file (values allowed: 100 – 1000).

The ‘Reorg.’ column defines how the file is reorganised if the file reaches the size defined in the ‘Number of Messages’ column (values allowed: 25% - 75%). A value such as 25% means: if the file size reaches the number of messages defined, the oldest 25% of the messages will be removed.

## 2.6.2.4 The 'Output template' tab

An output template specifies which information is transmitted via the relevant signalling channel, and which form or presentation is used.

The 'output template' field lists all templates available for the selected template type.
The command buttons next to the list allow you to create new templates, and edit or delete existing templates.

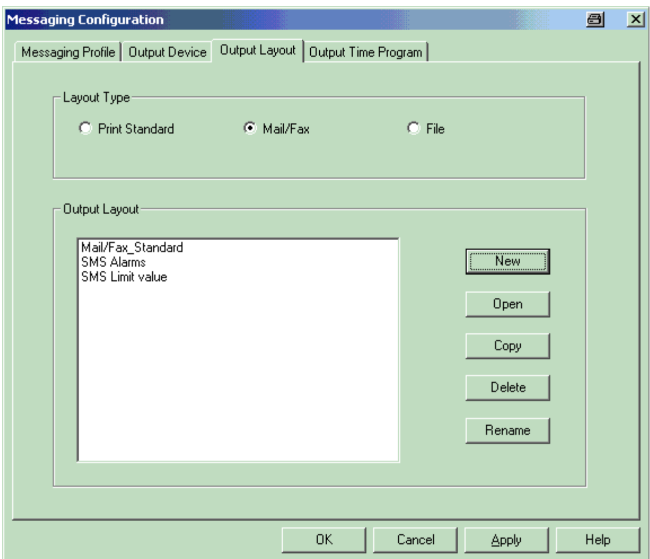



Illustration2-116: Definition of output templates

The windows for the configuration of a template consist of the ‘Layout’ and 'Line selection' sections (see Illustration2-117).

The' Layout' section comprises a table with entries as per Table 3 to specify the type of presentation for the message.

Table 3: Layout of a template

| Column | Meaning |
|---|---|
| Message | Selects the events that trigger an entry in the form and therefore an online message. |
| Text | Defines the text background colour |
| Font | Defines font and size |
| Font settings | Set font and size |
| Additional Text | Defines any additional text that is sent with the message. |
| Additional File | Defines an additional file that is to be sent as an attachment with the e-mail. |

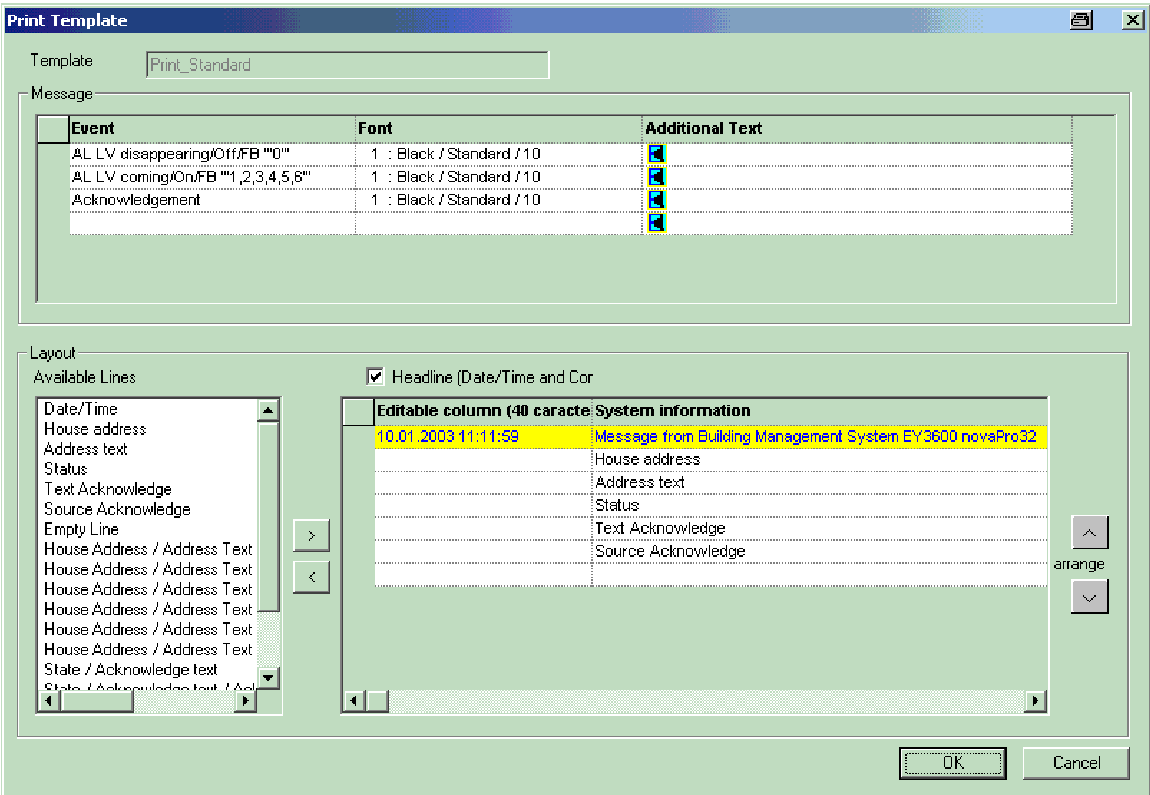


Illustration2-117: Configuring an e-mail / fax template

Left-click in a cell of the table, or on the icon at the left edge of the field, and a selection menu with all the possible entries for each field is shown, so the configuration of the table is self-explanatory.

The 'Line Selection' section defines which information is outputted with a message. The left-hand field, 'Available lines', lists all the information that can appear in the text of a message.
The right-hand field (Layout Presentation) shows the structure (layout) of a message with the selected information lines.

The '>' button copies a line from the list of available lines into the layout presentation. The '<' button removes a selected line from the layout. In addition to the information se-

lected in this way, any desired comment can be added to each line. To do so, left-click a cell of the 'Editable column' and enter text of up to 40 characters.

Right-clicking the cells of the layout presentation will open a context menu to format the text in the selected cell.

The ^ and ˅ buttons change the line order of a message to suit your own requirements.
The ☑ Datum/Uhrzeit bzw. Titel checkbox switches the yellow-backed title bar on or off.

The configuration of a file template is similar to the configuration for an e-mail/fax template, except that certain fields (such as Font, etc.) are not available.

## 2.6.2.5 The 'Output time profile' tab

The output time profiles allow time-controlled release of the messaging channels - so, for example, a message printer can be disabled while the operator is absent or the messages can be diverted to a private fax number at weekends.
Press the 'Edit' button to go to the configuration dialogue Illustration2-119.

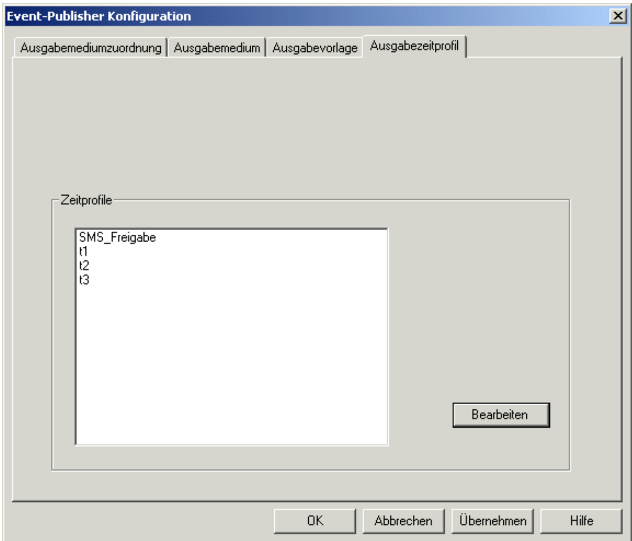


Illustration2-118: Output time profiles

### 2.6.2.5.1 Creating an EP time profile

In field ❶ you can choose all configured time profiles.
Right-click in zone ❷ to show the context menu.
Functions of the various buttons:

- '**Edit TPs**' Lets you create a new time profile.
- '**New entry**' Lets you create a new command line for the EP time profile.

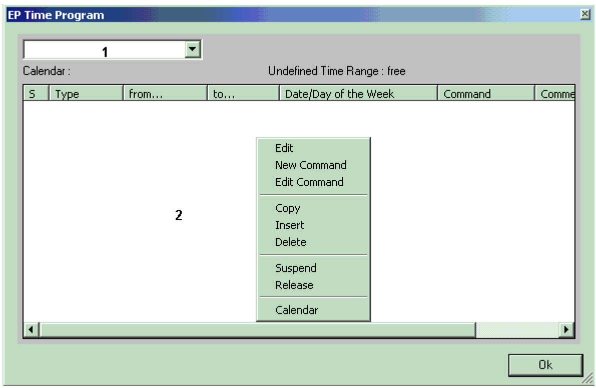


Illustration2-119 The output time profile

- '**Change entry**' Lets you edit an existing command line.
- '**Copy**: Lets you copy an existing profile and, using the ‘Insert’ button, copy it to a time profile selected from the list.
- **Delete**: Lets you delete the selected command line.
- **Suspend**: Lets you disable one or more command lines manually. The disabled task is marked with an ‘X’ in the ‘S’ column.
- **Release**: Revokes the suspension.
- **Calendar**: Lets you view and edit the assigned calendar.

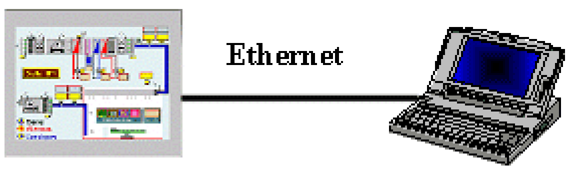
# 3 DigiMaster

## 3.1 Configuration

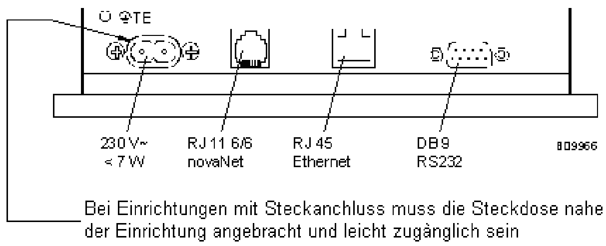
The dataset for the **DigiMaster** Touch Panel is available in various alternative languages. To load the language-specific dataset, use the 'Touch Panel Configurator' (TPC).

### 3.1.1 Connecting EYT 250 to the PC

To enable transfer of the data created in the CASE TPC configuration tool into the EYT 250, a connection is needed between the PC and the control panel via an Ethernet interface and a crossed network cable.




Plug the cable into the RJ45 socket.
DB9 (RS232) is planned for the future.




For communication with the EYT 250 Ethernet interface, the PC network card that is used must be set to a fixed IP address (see 3.1.1.1).
If you are also using the same network card within a LAN, note the current settings for your network card so that you can reset to the original settings after the EYT250 configuration has been completed.

#### 3.1.1.1 IP address of the PC

This address is used to create the connection between the PC and the EYT250 so that the project created with the CASE TPC programme can be loaded into the control panel.
Procedure for adapting the PC's IP address:

1. Select the 'Network environment' icon on the desktop and right-click on it to show this window.

2. Double-click on the properties; the 'Network and RDT connections' window appears.

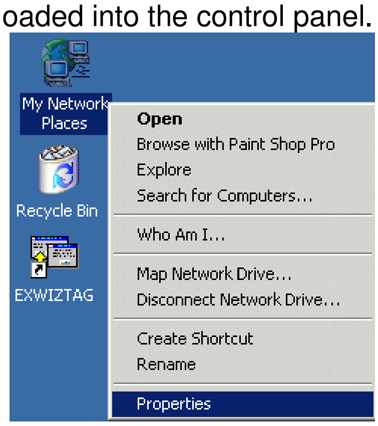



Illustration3-1:

3. Select the 'LAN connection' line and use the right mouse button to open the Properties window.

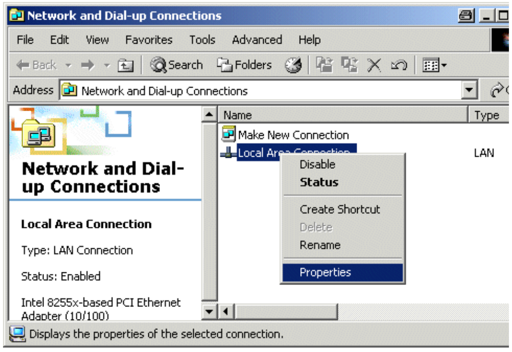


Illustration3-2:

4. Select 'Internet protocol (TCP/IP)'.

5. Select 'Properties'.

6. Enable the 'Use following IP address' option (see the illustration, bottom left).

7. Then enter IP address 192.168.10.1. Click on the subnet mask field to assign address 255.255.255.0 automatically.

8. Then confirm the parameters with 'OK'.

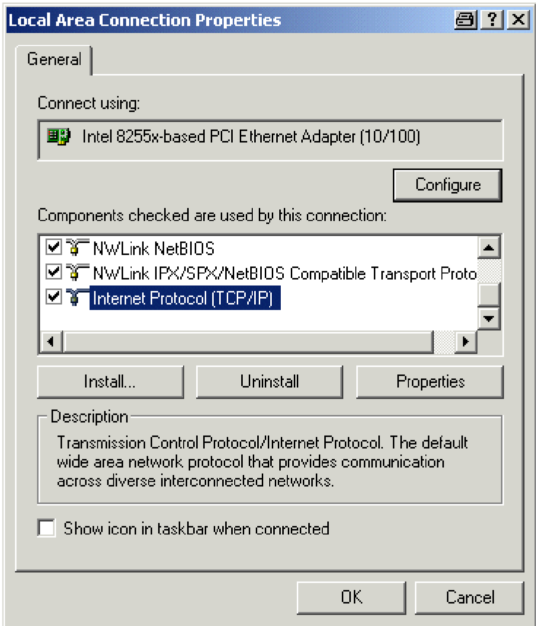


Illustration3-3:

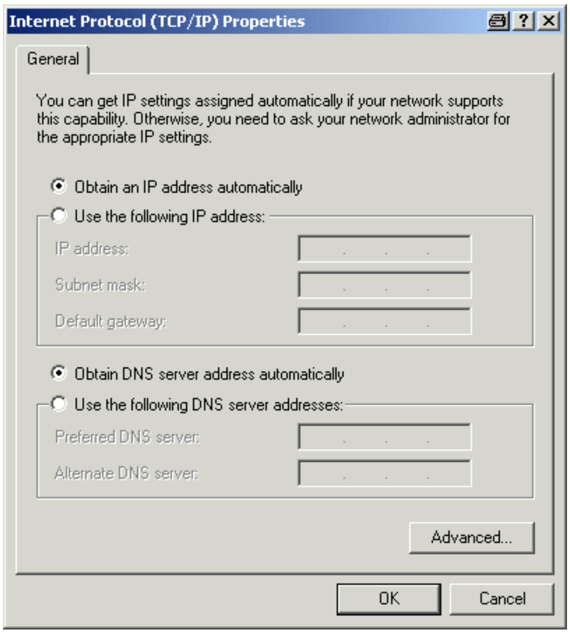


Illustration3-4:

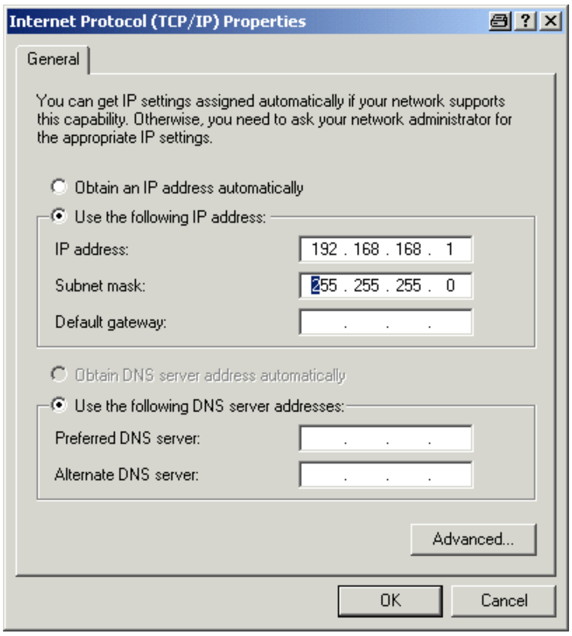


Illustration3-5:

There is no need to restart the PC in Windows 2000 and XP.

## 3.1.2 Open a language-specific dataset

Open the '**Project | Open**' menu. An Explorer window opens.
In directory '**C:\DigiNet\Sauter\EY3600\Hoval_DigiNet_DN5_01\tpc**' select project '**Hoval Diginet DN5_xx.eyt**' in the language you want:

_ge German
_en English
_fr French
_.. …

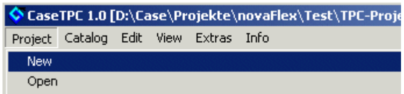


Illustration3-6

## 3.1.3 Write to EYT250

Write the dataset with the help of the 'Project | Write to EYT250' menu or function key F2.



Illustration3-7

When you start the 'Write to ETY250' function, the 'Download files' window will open (Illustration 3-8).

for the download the following files should be chosen:

- “Script files” (.xml) to write the project data
- “System files” to create the application and/or plant filter, the AS filter, the definition of the PC address on the novaNet and to enter the calendar filter.

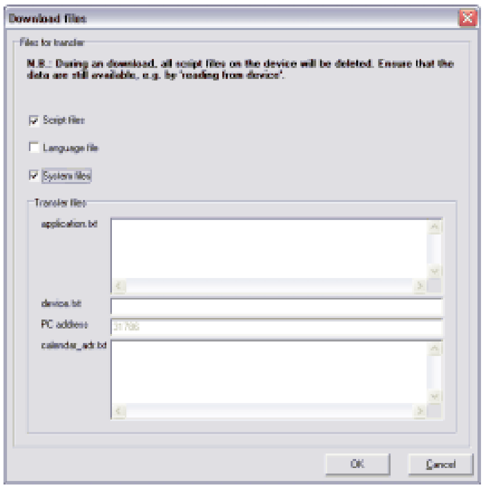


Illustration 3-8

Since the language data's are integrated in the project data's ("global.xml") the standard language file "global.txt" should not be chosen for the download.

During the download the write process is reported  ().

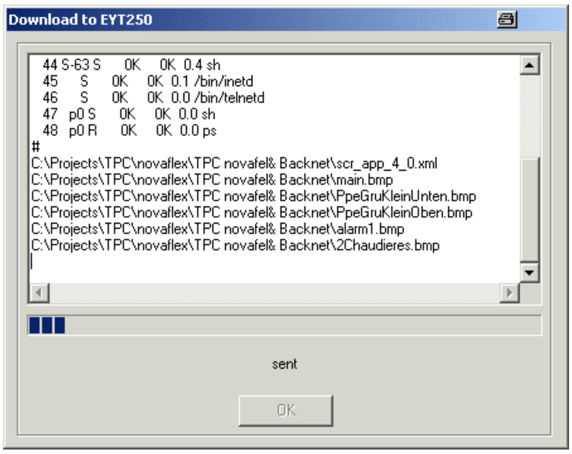



Illustration3-9

After data transfer has been successfully completed, the 'OK' button is enabled (). Press the 'OK' button to close the connection and complete the operation.

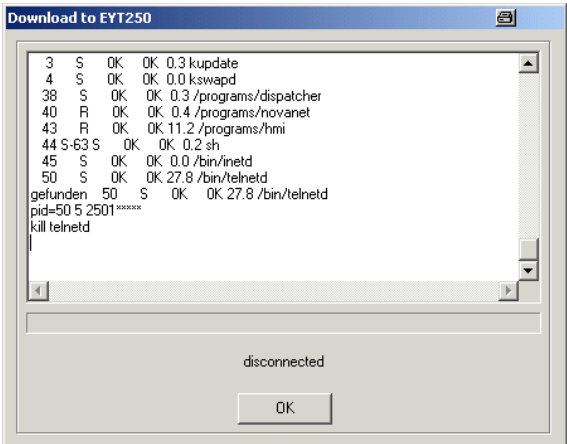
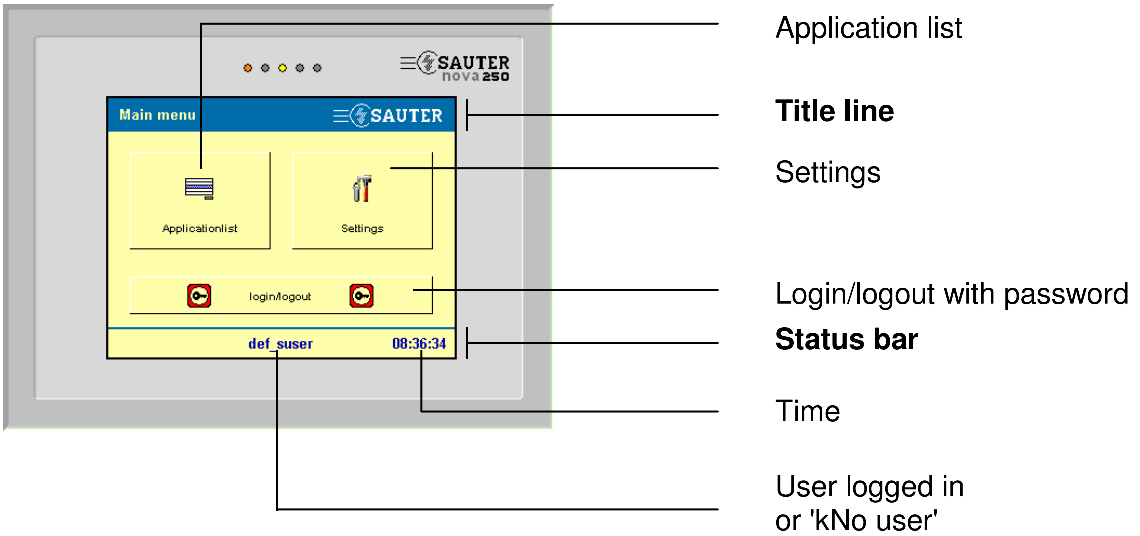



Illustration3-10

# 3.2 Operation

## 3.2.1 Main menu

After you have successfully connected and started the EYT250, the start screen is called up automatically. This contains the higher-level menu items for the control panel.




Press one of the three buttons to select the function you want:

- **Application list (Section** Fehler! Verweisquelle konnte nicht gefunden werden.**)**
  - select the desired automation station or plant
- **Settings (Section** Fehler! Verweisquelle konnte nicht gefunden werden.**)**
  - Calibration : calibrate the touch display
  - Display parameters: set the display contrast
  - Systeminfo : show current system settings and versions
  - Restart: restart Touch Panel software
  - Time: set the time
  - Profiles: create users
  - Filters: view, enable and disable filters
- **Login/logout (Section** Fehler! Verweisquelle konnte nicht gefunden werden.**)**
  - User login or logout
  - Change password

To visualise and change all the functions, you must be logged in as a user in the Administrator user group. See Section 3.3.7.

Click on the clock in the status bar to set the time if you are an administrator. Click on the area for the logged-in user in the status bar to log in or out.

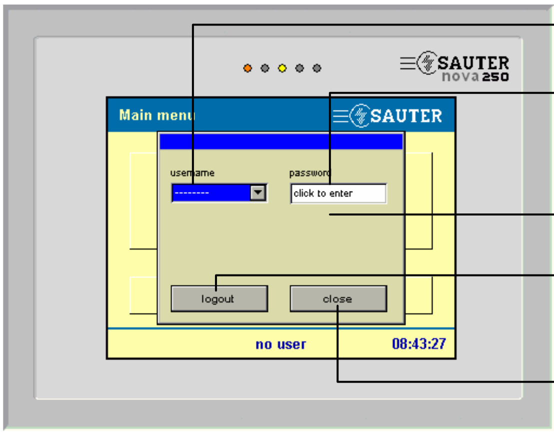
## 3.2.2 Login, logout

Click on the login/logout button in the start screen to show a dialogue where users can log in or out. You can go to the same login/logout dialogue by clicking on the name of the logged-in user in the status bar.

The list of user names shows all users who are defined by the administrator in the Profiles menu. See Section 3.3.7.

In the original status, 2 users are defined with different access rights:

| | |
|---|---|
| --------- | No user, only allows operation of the panel (without password). |
| def_Admin | 'Default Administrator', allows you to enter system parameters, setpoints, switching commands and time programmes (password: 654321). |




Dropdown *User name* list box to select the user

*Password* field to enter the password

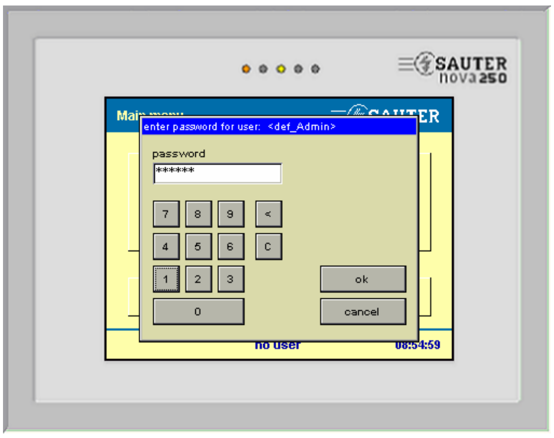
The *Change password* button is only shown when the logged-in user is selected.

The *Logout* button logs off the current user.

The *End* button saves the entry and handles the login.

To log in, first select the user name from the list box and click on the Password box.

### 3.2.2.1 Enter password

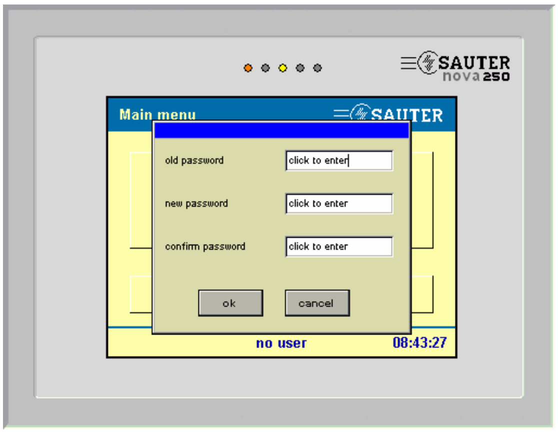



You are shown a numerical keypad with a request to enter your password.

Now enter the password. Confirm the password with *OK*; the user is logged in and you return to the previous screen. A red message shows whether the *Login was successful* (correct password) or *failed* (incorrect password).

Press *Cancel* to return to the previous screen.

### 3.2.2.2 Change password




If you want to change the password, the user must already be logged in. The *Change password* button then appears.

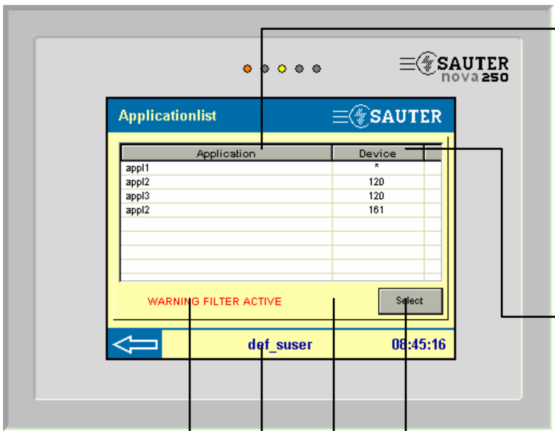
Make these entries one after another:
- enter the old password
- enter the new password
- confirm the new password
- save with the *OK* button and return

Use the *Cancel* button to return to the previous screen without changes.

## 3.2.3 Application list

Touch the 'Application list' button on the start screen to show a list of all automation stations or plants that respond via novaNet and that meet the conditions for a filter, if one is set. (See Section 3.3.8 Filters).

**Information: This list may have no more than 100 entries.**




The *Application* column shows which applications or installations have responded. Depending on the definition in CASE FBD, this column shows the house address or, if there is no definition, the device + group address.

The *AS address* column shows the AS group address. If an installation is distributed over several AS, a * is shown.

*Enable*: the data are read into the EYT250 memory.

*Update*: the data are read into the AS of the EYT250.

The logged-in user is shown.

If a filter is enabled, a message is shown.

The time and the back arrow to go to the main menu are also visualised.

### 3.2.3.1 Choosing an application or installation

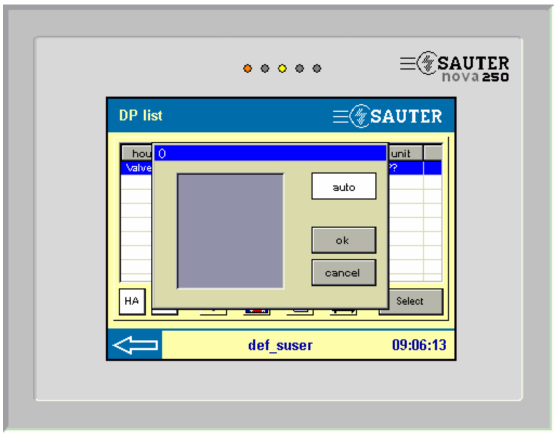
You can select the application or installation that has to be shown from the list.
Press the 'Enable' button to trigger loading of all datapoints and pictures that are assigned to this application or installation. The 'Enable' button ensures that all datapoints in the AS are read out. An application or installation that has already been read out once can be reloaded from the EYT250 memory with 'Update'. In this case, the only new items read are the values, status and alarms.
Two different types of visualisation are then possible.
If no project for this application or installation is stored in the EYT250, a datapoint list is shown. The Load window tells you: 'File (scr_app_x_x.xml) is missing'.
If a project for this application or installation is stored in the EYT250, the assigned picture is shown.

### 3.2.3.2 Send a command or value

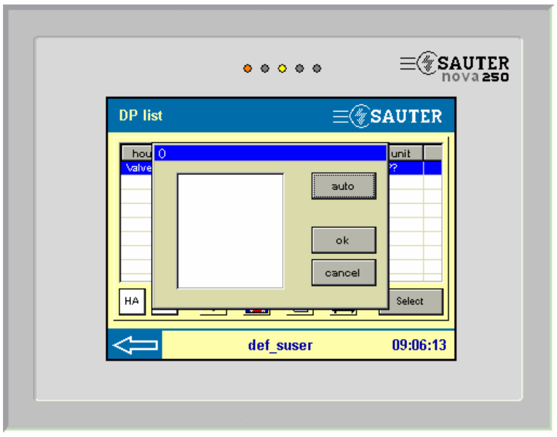
All datapoints that accept remote commands or change values can be set manually.

**After the address is selected, these windows are shown for binary values:**

Automatic mode



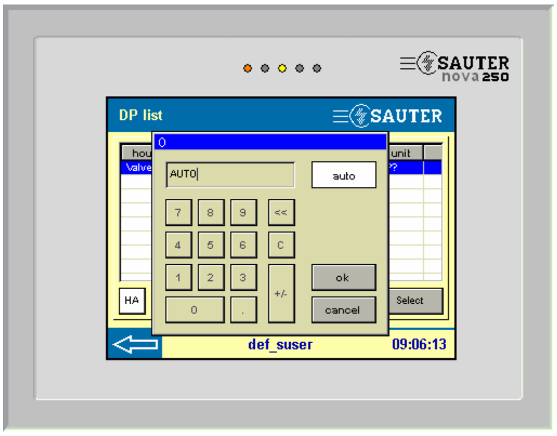

Manual mode



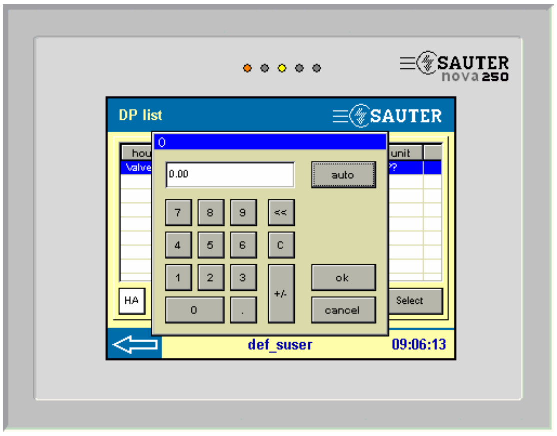

Press OK to close Automatic mode or Send command.
Use the Cancel key to return to the previous picture.

**These windows are shown for analogue values.**

Automatic mode



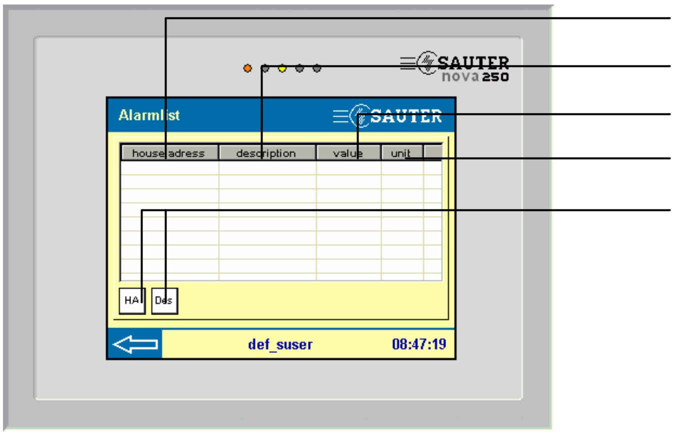

Manual mode




Press OK to close Automatic mode or Send value.
Use the Cancel key to return to the previous picture.

## 3.2.3.3 Visualise alarm list

Press the Alarm list button to open a window with a list of all active alarm datapoints in the active application.




House address column

Description column

Value column

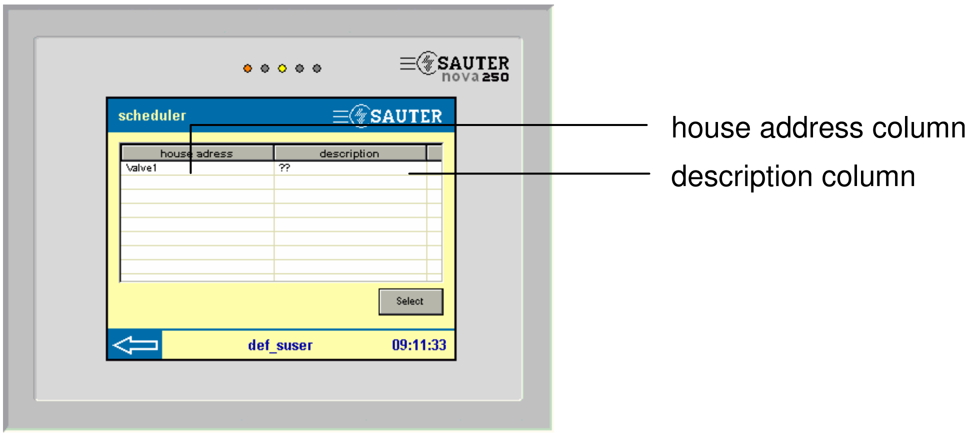
Physical variable column

The 'HA' and 'Desc' buttons allow visualisation of the house address and description columns, house address only, description only, or value and physical variable only.

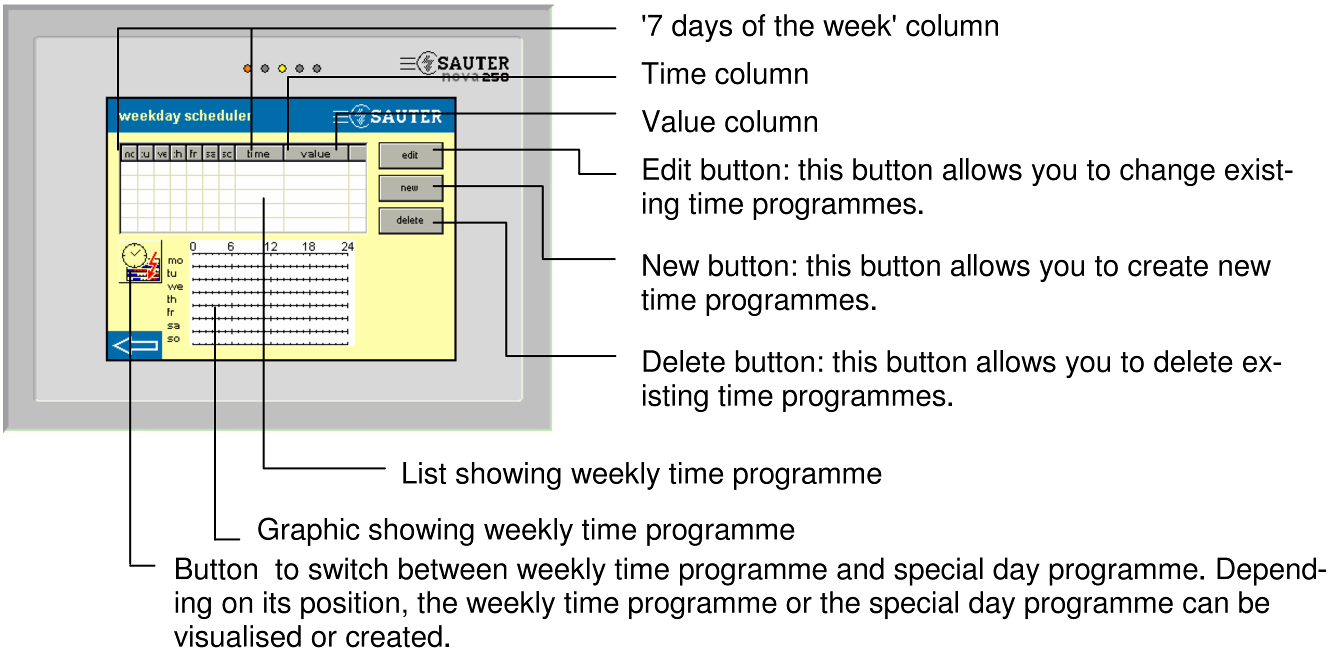
Press on the names of the house address, description, value or physical variable columns to sort the lines alphabetically (forwards or backwards).
The time, the arrow to return to the application list and the logged-in user are also visualised.

## 3.2.3.4 Read or write time programmes

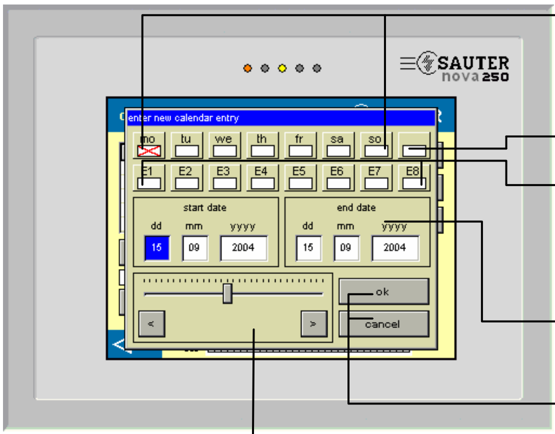
By pressing the time programme button, it is possible to visualise the existing time programme for specified datapoints, or to define a new time programme.
The first screen shows a list of datapoints that can be linked with a time programme.




Press on the name of the house address column or the description column to sort the lines alphabetically, forwards or backwards.
The time, the arrow to return to the application list and the logged-in user are also visualised.
To visualise or redefine the time programme, you must select the datapoint and enable it by pressing 'Select'.
This window is shown provided that the selected datapoint does not have a time programme.
If the selected datapoint has a time programme, the time programme is shown in graphic and list form.




Press on the return arrow to prepare for writing the time programme to the AS. Three options are proposed: Send yes, no or cancel. If you press the Yes button, the time programme is sent to the AS.
After you press the Edit button (once you have selected the time programme) or the New button, you see this screen.




Days of the week, Monday to Sunday. Click to select the days you want.

Daily: all the days of the week are selected.

Up to 8 special day programmes can be assigned to this time programme with the help of the calendar function.

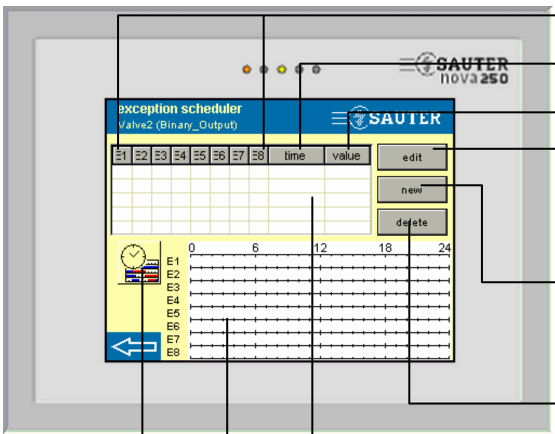
Set switching times with bar or forward/backward keys.

Press the OK button to confirm the new or corrected time programme. The window with the graphic display will then be visualised. Press Cancel to return to the previous screen.

Value or status setting: click on the value, and the Value window or Setting command is opened. Set the value or command and confirm with OK. The new value is shown.

### 3.2.3.4.1 Read or write special day

When you switch over to the special day setting, this window will appear provided that no special day is defined:




'8 special days' column

Time column

Value column

Edit button: this button allows you to change the selected special day.

New button: this button allows you to create the new special day. Important: only select the special day that has to be defined.

Delete button: this button allows you to delete the selected special day.

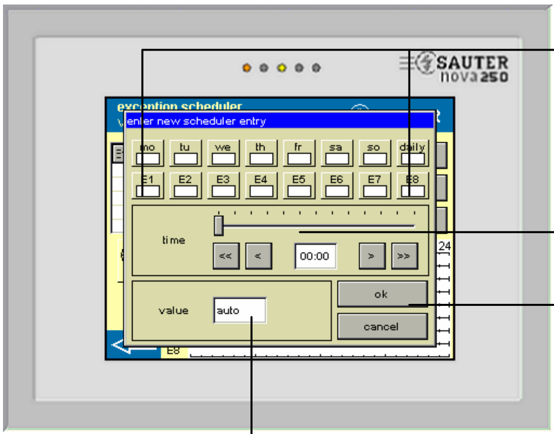
List showing all 8 special days

Graphic showing all 8 special days

Button to switch between weekly time programme and special day programme. Depending on its position, the weekly time programme or the special day programme can be visualised or created.

Press on the return arrow to prepare for writing the special days to the AS. Three options are proposed: Send yes, no or cancel. If you press the Yes button, the special days are sent to the AS.

After you press the Edit button (once you have selected the special days) or the New button, you see this screen:




Special days 1 to 8. Click to select the special day you want.

Set switching times with bar or forward/backward keys.

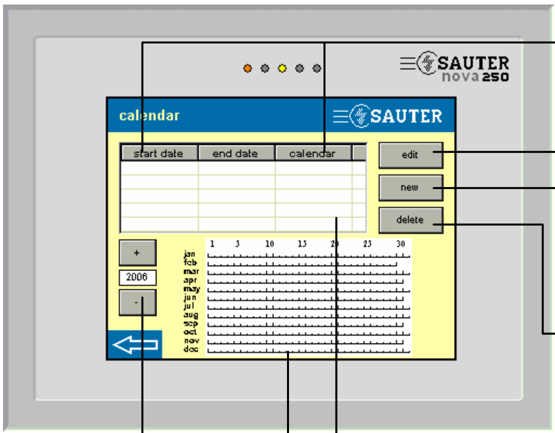
Press the OK button to confirm the new or corrected special day. The window with the graphic display will then be visualised. Press Cancel to return to the previous screen.

Value or status setting: click on the value, and the Value window or Setting command is opened. Set the value or command and confirm with OK. The new value is shown.

The special days you select in this way can then be enabled for specified days with the help of the calendar function.

## 3.2.4 Calendar function

Press the Calendar icon to show this window.
In this case, this station does not contain a calendar function




3 columnns are shown:
start date, end date and special day no.

Edit button: this button allows you to change the existing calendar day.

New button: this button allows you to create the new calendar day.

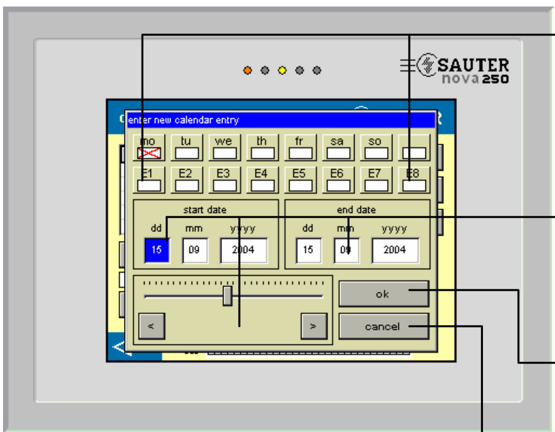
Delete button: this button allows you to delete the selected calendar day.

List showing the active special days.

Graphic showing the active special days. The selected special days are shown in red.

+ and – buttons to select the yearly calendar. Special days can be defined 2 years in advance.

Press the return arrow to prepare for writing the special days to the AS. Three options are proposed: Send yes, no or cancel. If you press the Yes button, the defined special days are sent to all AS that are connected on the novaNet or to AS that are selected via a filter.
After you press the Edit button (once you have selected the special day) or the New button, you see this screen:




Special days 1 to 8 and days of the week. Click to select the special day or day of the week that has to be assigned to the data-point as a special day.

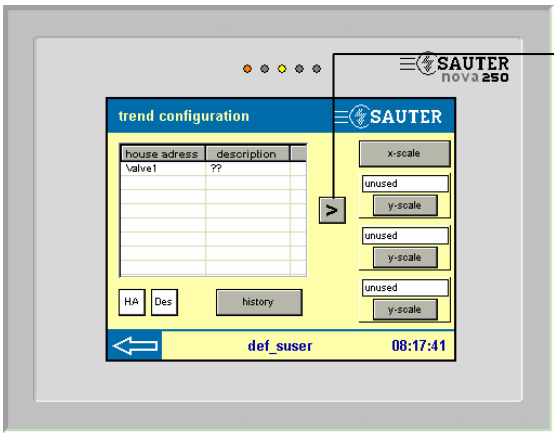
Special day period selection with bar or forward/backward keys.

Press the OK button to confirm the new or corrected special day. The window with the graphic display will then be visualised.

Press Cancel to return to the previous screen.

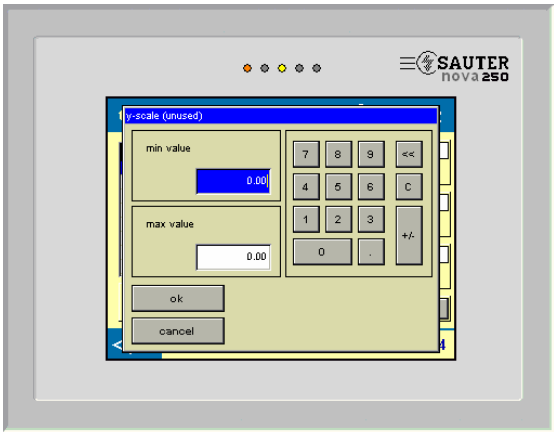
## 3.2.5 Historical data

Press the historical data button to open a window with a list of all datapoints:



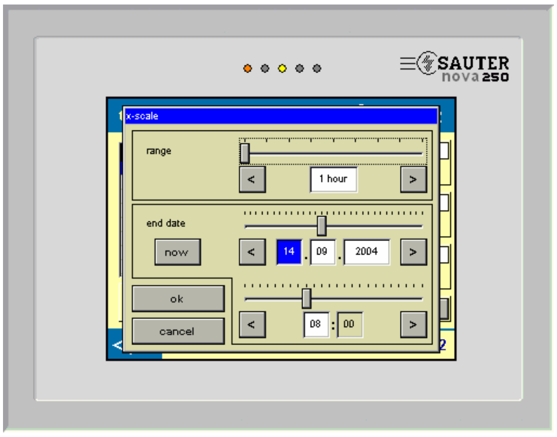

Select the datapoint and add it with the '>' button. Up to 3 datapoints can be added. When you add an analogue value, the Y-scale window opens.

The Y-scale buttons allow you to adjust the defined min. and max. values.



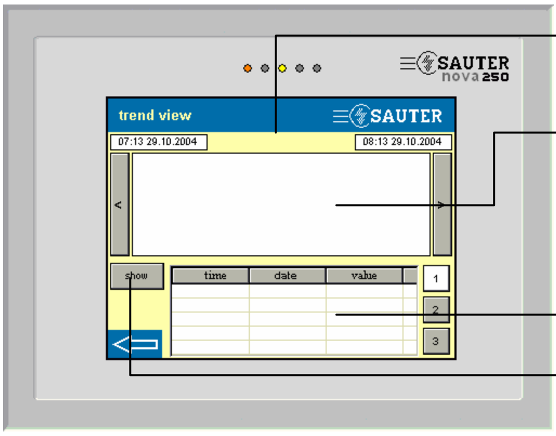

The Y-scale can be defined in this window with min. and max. values. Press OK to acknowledge the entry.
Press Cancel to return to the previous screen.
The Y-scale is not enabled for binary values.

Press the X-scale button to visualise this window:




The X-scale can be defined in this window.
Range: period of time that is visualised. You can choose from: 1, 4, 12 hours; 1, 7 days, 1, 3, 8 months, 1 year.
End date: the last entry that is visualised in the HDB (date and time). The Now button sets the current date.
Press OK to save the entries.
Press Cancel to return to the previous screen.

Press the HDB button to visualise this window:




Three fields show the start date, house address and end date.

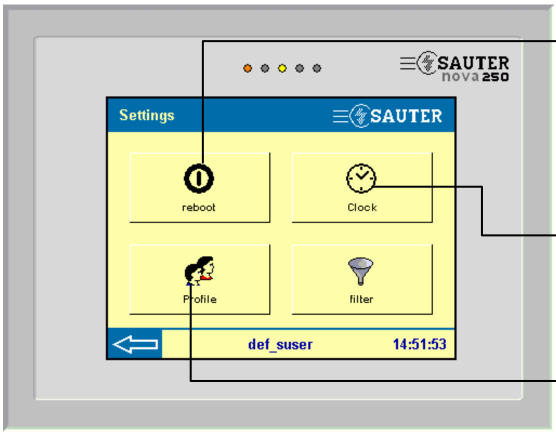
Field for graphic view of up to 3 datapoints.

Visualise up to 3 datapoints in list form. You can select the datapoint with buttons 1, 2, 3.

The View button shows the datapoint selected from the list in graphic form.

# 3.3 Settings

Press the Settings button to show this screen:

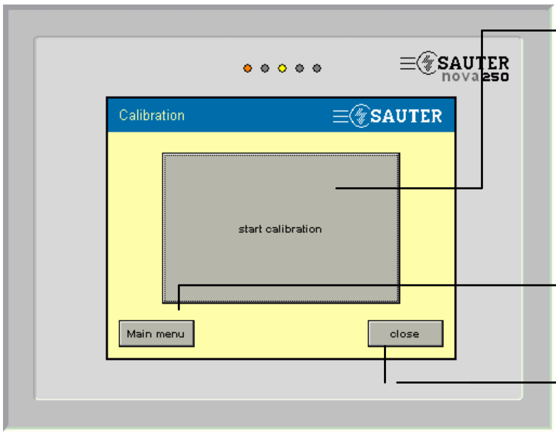



Calibration button. If a button cannot be correctly assigned to the action, a calibration has to be carried out.
Press the button and this screen is shown.

Display settings button: use this button to set the background lighting.

System info button: important system information can be visualised.

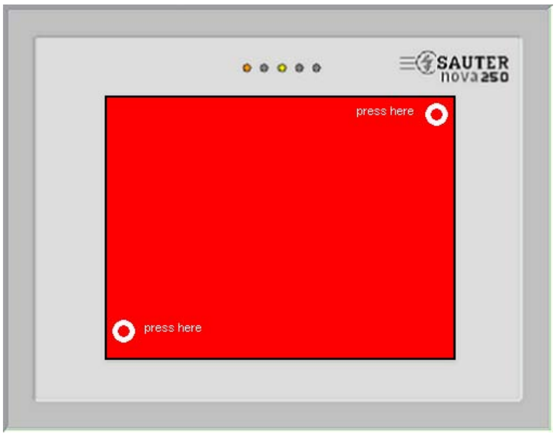
## 3.3.1 Calibration



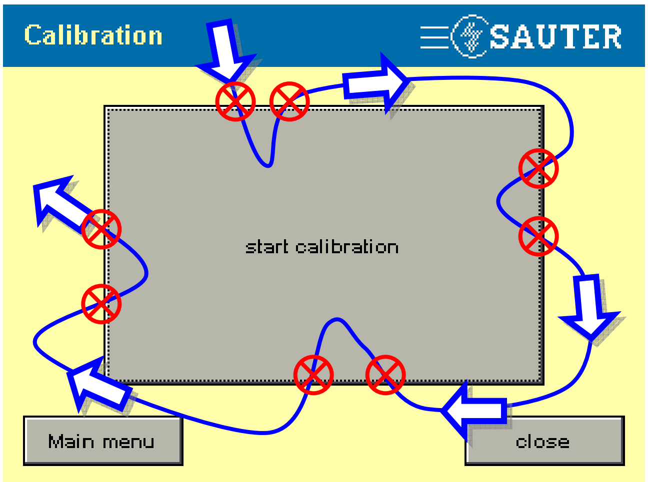

Start calibration button: this button allows you to change the existing calibration. After you press the button, click on the two corner points shown and the calibration will be performed.

Main menu button: this button enables you to return to the main menu.

Close button: this button closes the window being shown.



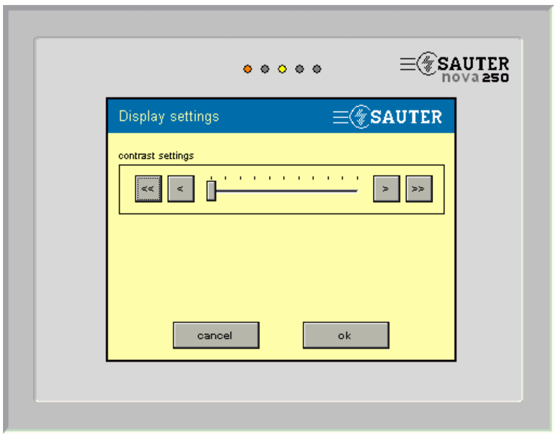

After calibration has been completed, it is important to check it.
Procedure:




Press the area with your finger or a pen, and without interrupting the pressure, check the active zone for the start button (follow the arrow). If the zone is enabled exactly at the edge of the button, the device is correctly calibrated; otherwise, the calibration must be repeated until accuracy is achieved.

## 3.3.2 Display parameters

Press the Display parameters button to show this screen:



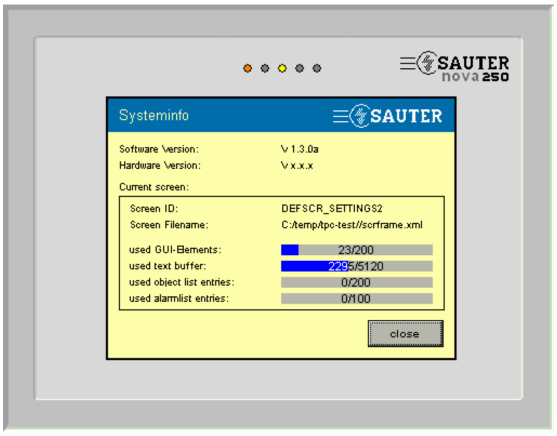

Contrast setting with bar or forward/backward keys.

Press Cancel to return to the previous screen.

Press the OK button to save the new setting.

## 3.3.3 System info

Press the System info button to show this screen:



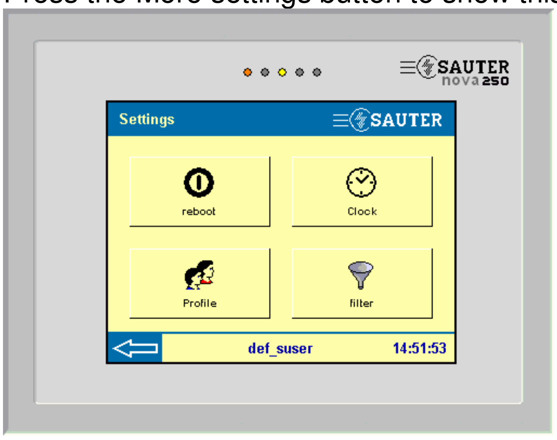

Press Close to return to the previous screen:

Hardware versions:

| | |
|---|---|
| 3.1.1 | Color with HBD |
| 3.1.2 | Monochrome with HDB |
| XX.X.1 | Color without HDB |
| XX.X.2 | Monochrome without HDB |

## 3.3.4 More settings

Press the More settings button to show this screen:

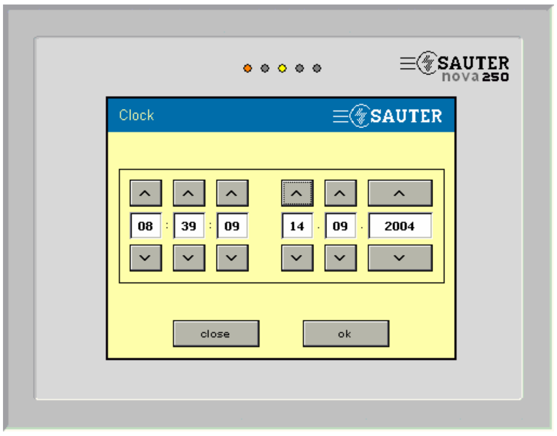



## 3.3.5 Restart

This button lets you restart the EYT250.
Press this button and you see a window where you can select OK or Cancel.
Click on OK to initialise the restart.

## 3.3.6 Time

Press the Time button or click on the time that is displayed to see this screen:

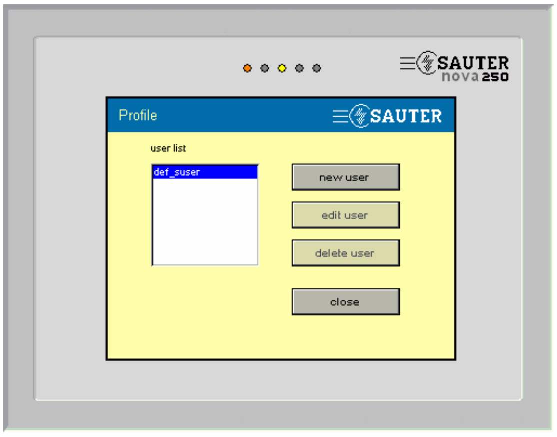



Use the forward/backward keys to set the time and date.

Press OK to transfer the time and date to all AS that are connected to the novaNet.
Press Cancel to return to the previous screen.

## 3.3.7 Profiles

To be able to make changes in this window, you must be logged in as an administrator. Press the Profiles button to show this screen. A list of operators shows which operators are defined. Three buttons allow you to define new operators, delete operators from the list or change the login definitions. The logged-in operator can only define new operators; the Delete and Edit buttons are no longer visualised.
Touch the function you want to choose from four user groups:

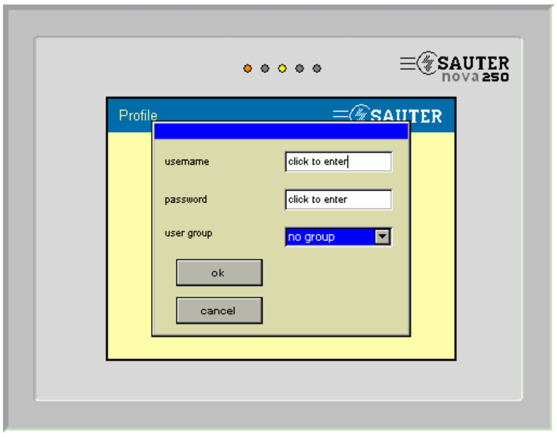



**No group**
only allows operation of the panel.
**Guest**
only allows operation of the panel.
**User**
allows entry of setpoints, switching commands and time programmes.
**Administrator**
allows entry of system parameters, setpoints, switching commands and time programmes.

**New** button : use this button to create a new user.
**Edit** button : use this button to change an existing user.
**Delete** button : use this button to delete an existing user.
In the lower Timeout window, you can define the reset for the password.
Use the forward/backward keys to give you a choice of these options:
Timeout: never, 60min, 30min, 10min, 5min, 1min.
Acknowledge the selected setting with the Accept button. The timeout is then enabled for all defined users.

### 3.3.7.1 New

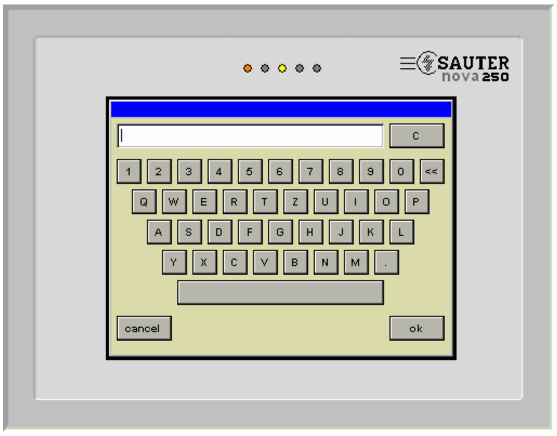
Press the Profiles button and then New to show this screen:



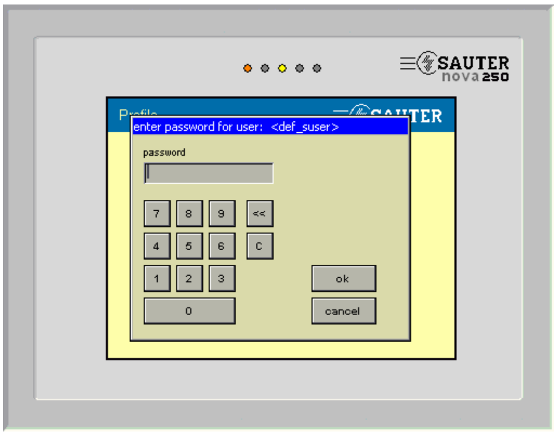

Click on the User name window to define a new user. The next screen appears.

Click on the password window to define a password for this new user.

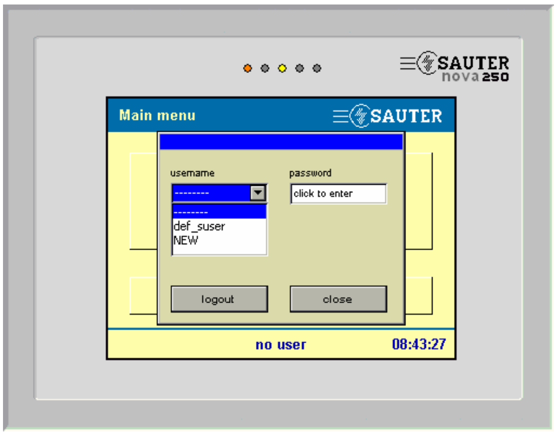
Click on the User group window to define the relevant password level for this new user. The password for the assigned user group must then be entered.




You can use the alphanumeric keyboard to define the new operator. 11 characters are allowed. Press OK to confirm, or Cancel to return to the previous menu.



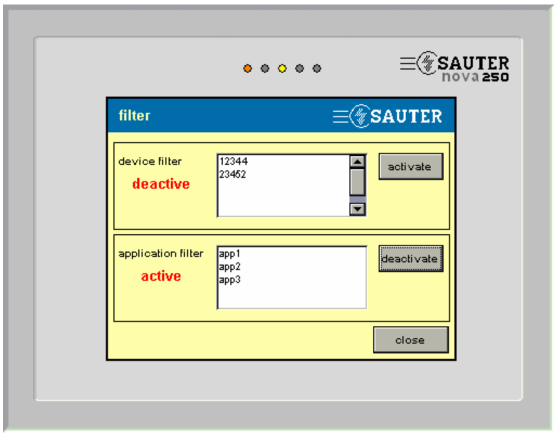

You can use the numeric keypad to define the new password. Press OK to confirm, or Cancel to return to the previous menu.




The newly defined operator then appears in the list of operators.
Press the Close button to acknowledge this entry.

## 3.3.8 Filters

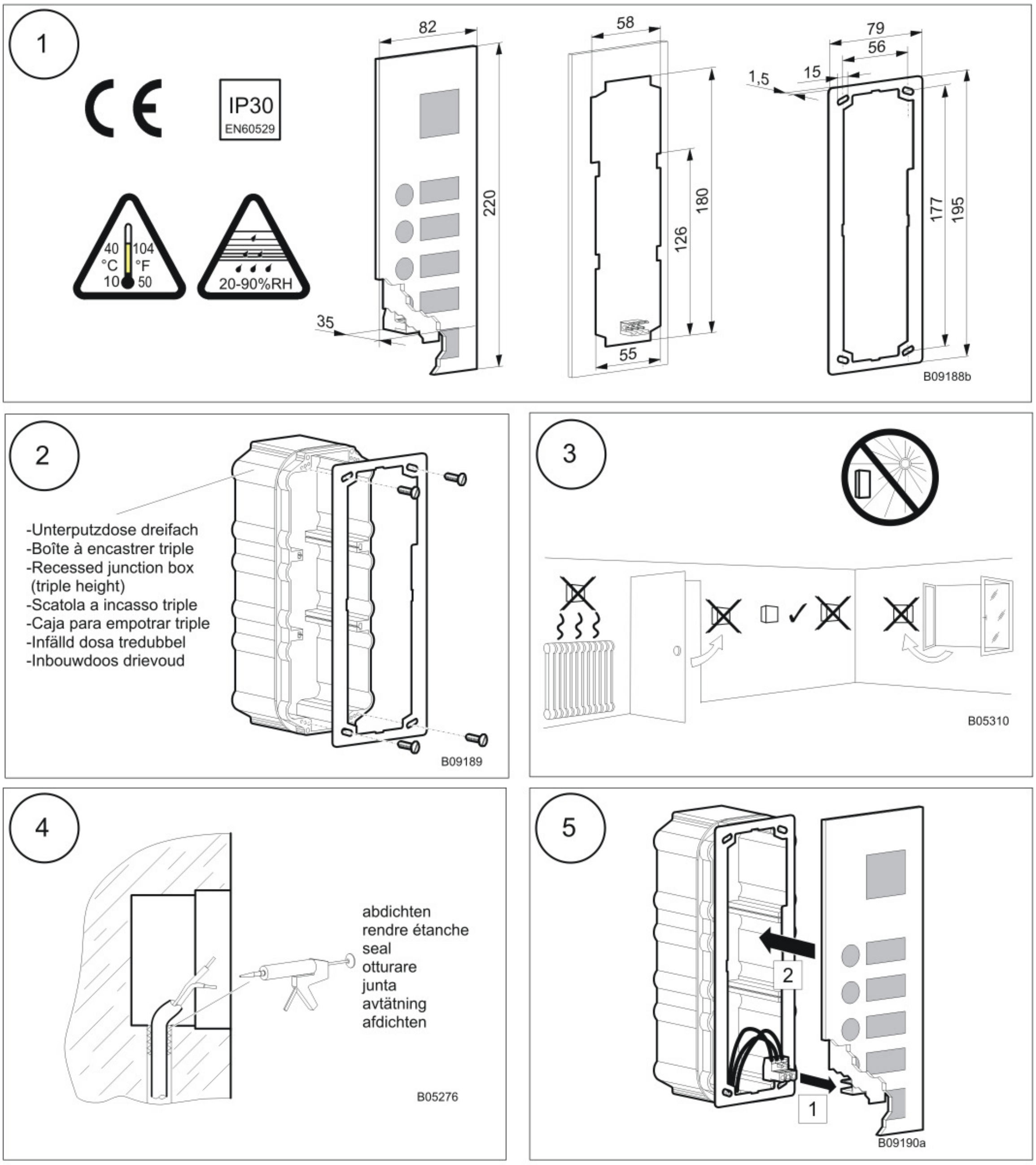
Press the Filters button to show this screen:

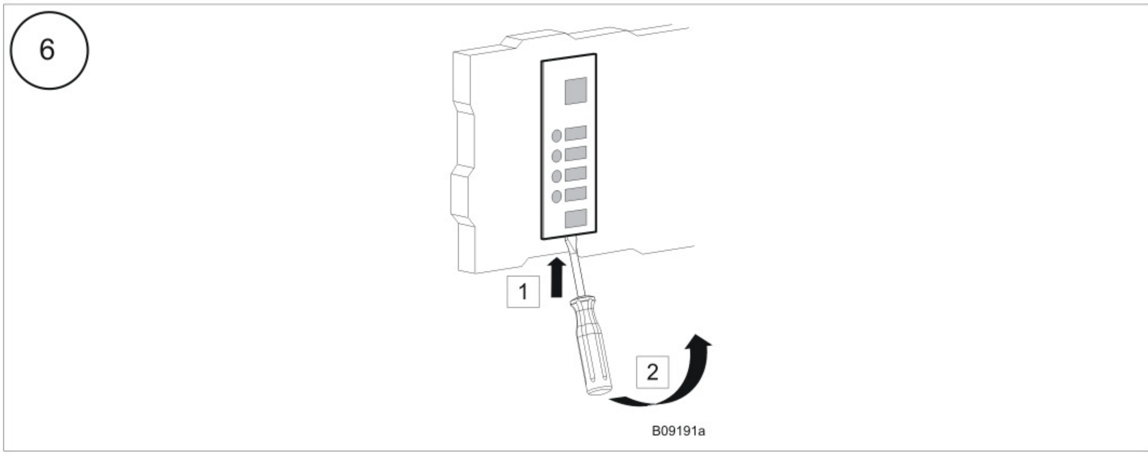


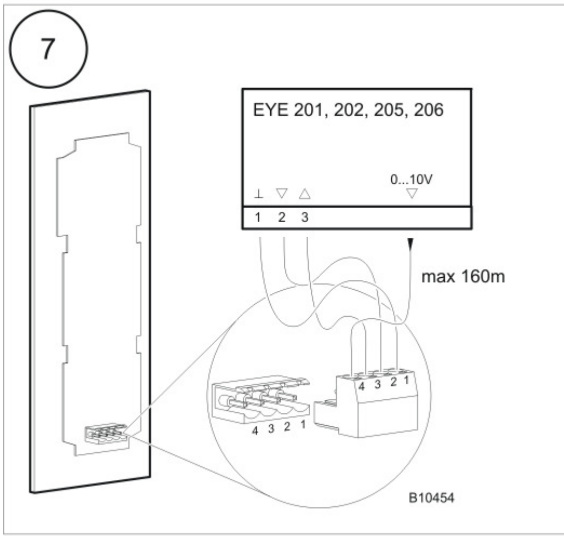

The active filters (AS or application) are shown on this screen.
You can enable or disable the filters in this window.

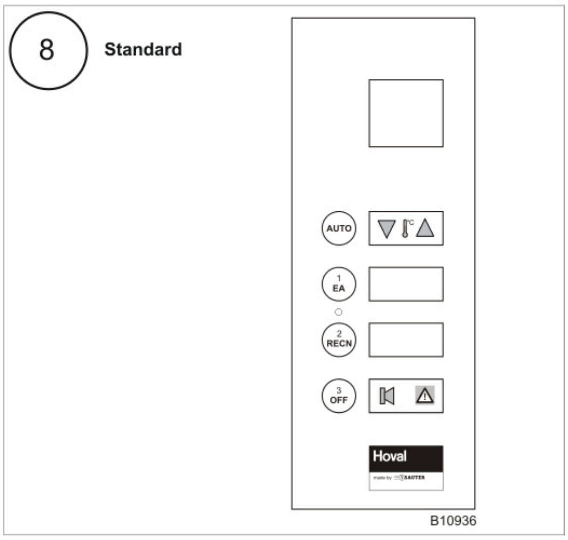
# 4 DigiEasy

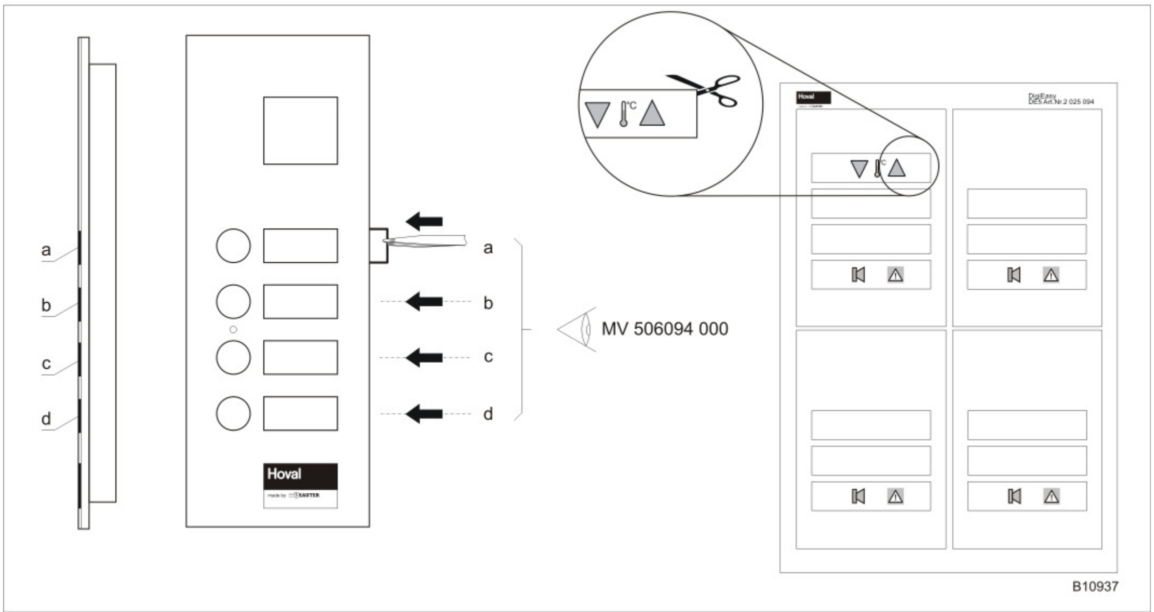
## 4.1 Installation




6
1
2
B09191a


7
EYE 201, 202, 205, 206
0...10V
1 2 3
max 160m
4 3 2 1
4 3 2 1
B10454


8
Standard
AUTO
1 EA
2 RECN
3 OFF
Hoval
B10936


a
b
c
d
Hoval
a
b
c
d
MV 506094 000
B10937

# 4.2 Configuration

See 2.4.3

# 5 Remote operation of DigiWeb

## 5.1 Configuration

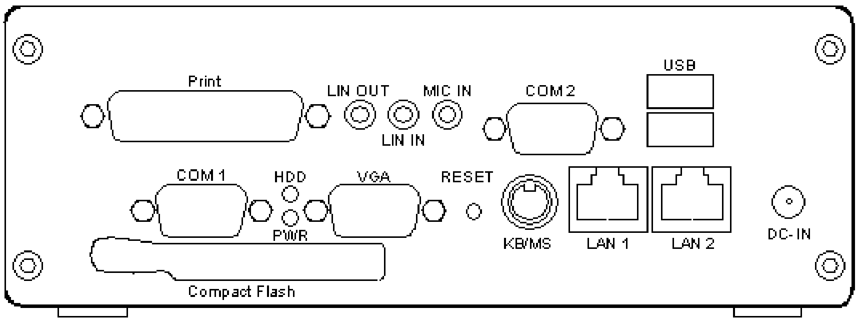
### 5.1.1 Introduction



novaWeb is a preconfigured web server for the novaNet automation stations (AS). This section describes the basic steps to be taken when setting up novaWeb- i.e. how to connect it to the novaNet, which is then presented automatically as a web site, and how to connect it to the PC for any further configuration.

### 5.1.2 Connections

The connections for the novaWeb server correspond to a small single board PC. The following terminals are present on the back:




The most important connections are the following:

| Terminal | Type | Cable | Connection |
|---|---|---|---|
| DC-IN | | (included with Power Supply Unit) | Power supply |
| COM 2 | DB9 | RS232 zero modem cable | novaNet291 |
| LAN 2 | RJ 45 | CAT 5 Ethernet cable | PC or LAN |

## 5.1.3 Power Supply

Connect your power supply unit to the DC-IN terminal, switch on and check that the green LED on the front next to the power switch is on, or that the LED (labelled PWR) is lit on the back.

## 5.1.4 Connection to novaNet

### 5.1.4.1 RS232 connection to novaNet 291

For the connection to the novaNet, you need a novaNet291 router which must be set to a transmission speed of 38400 bits/s (only switch 3 to ON). The address of the novaNet 291 is defined by the novaWeb as 31777 so no other PC within the novaNet can use this address.



Connect the COM2 port of your novaWeb device to the COM port of the novaNet 291 via a standard cable (Sauter article number 386301 001) of type DB9 Zero Modem Cable.

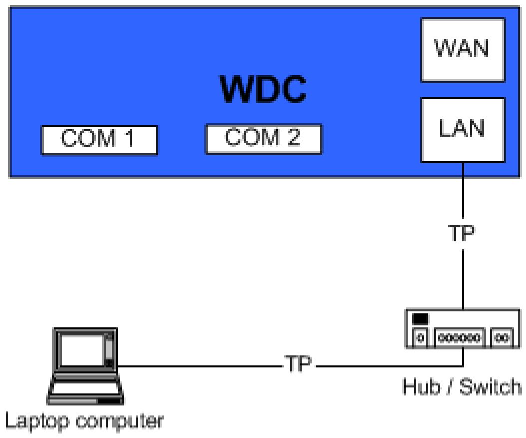
#### 5.1.4.1.1 Connecting the novaNet291 to the automation stations

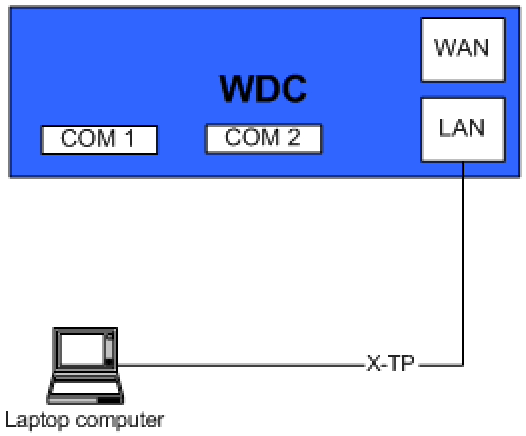
The connection from the RJ11 port of the novaNet 291 to the novaNet devices is made with a twisted pair (TP) cable.

## 5.1.5 Ethernet

The LAN terminal (designated LAN2) can be connected in two ways:

- via a standard Ethernet cable to  the hub
- via a crossed Ethernet cable, directly to the PC.




The status of the network connection can be checked via the LED on the LAN terminal: if the right-hand LED (green) is lit, the connection is OK. A blinking left LED (yellow) indicates data traffic on your network.

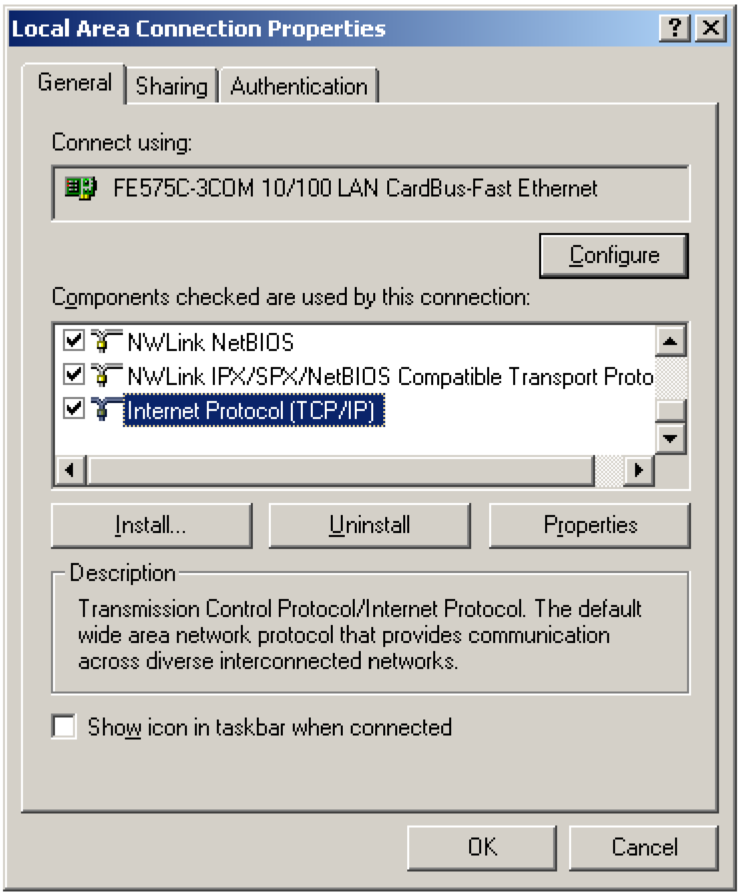
## 5.1.5.1 PC and Ethernet settings

### 5.1.5.1.1 novaWeb settings

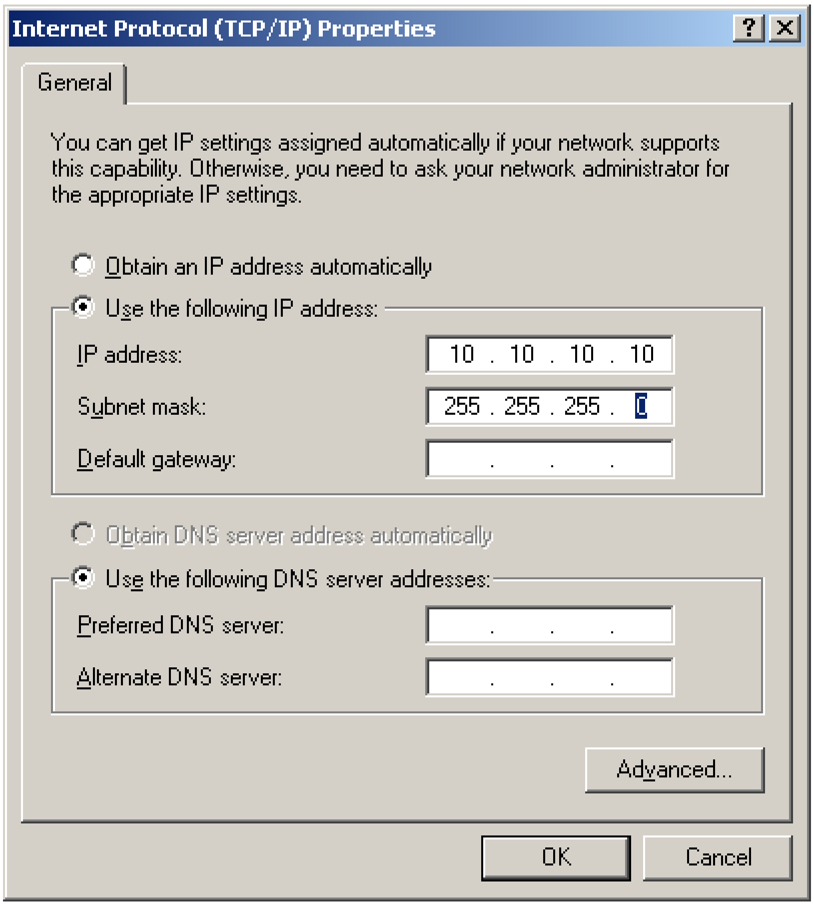
Ex factory (on delivery) the LAN connection (LAN2 terminal) of novaWeb is set to the following values:
IP address: 10.10.10.11
Subnet mask: 255.255.255.0

### 5.1.5.1.2 Corresponding PC settings

To connect to novaWeb, you have to set the IP address of your PC to the same network. On the PC, this means you must set a different IP Address (e.g. 10.10.10.10) but the same subnet mask (255.255.255.0).
You can specify your LAN connection either via "Desktop / My Network Places /Network and Dial-up connections" or via "Start / Settings / Network and Dial-up connections".




On the "General" tab, you have to select 'Internet Protocol TCP/IP' and then click 'Properties'. Then enter the following IP address and subnet mask.

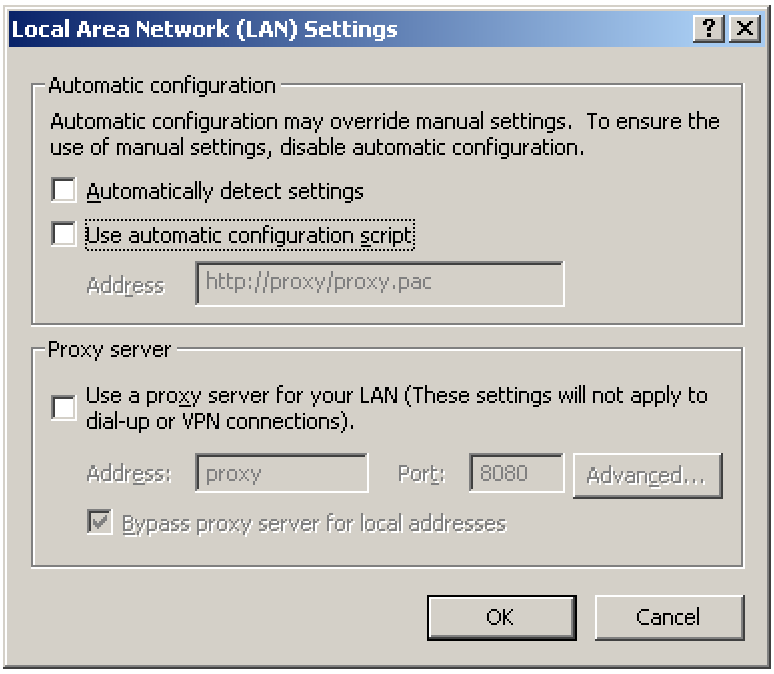



## 5.1.6 Proxy settings

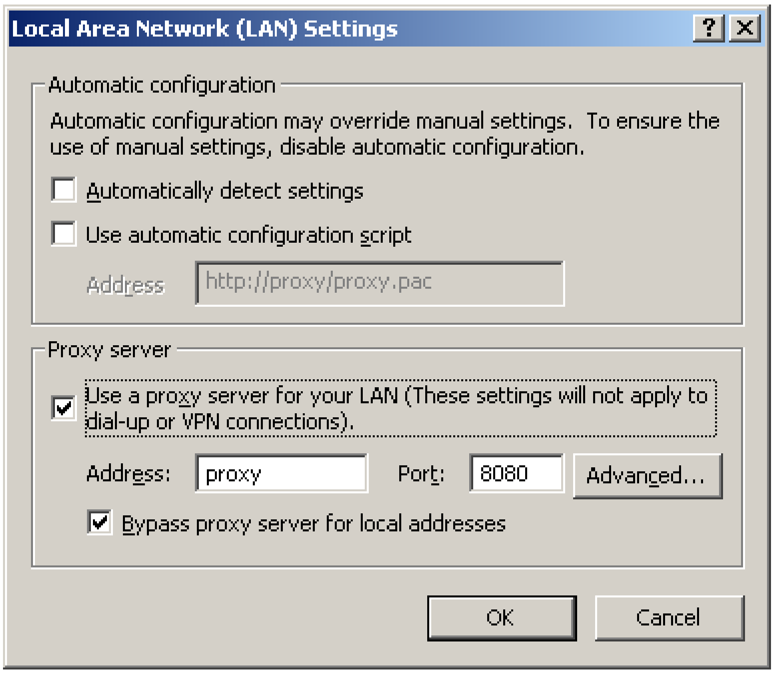
Make sure that no proxy application is running, since there is no connection to the usual proxy server in the local area network (LAN).

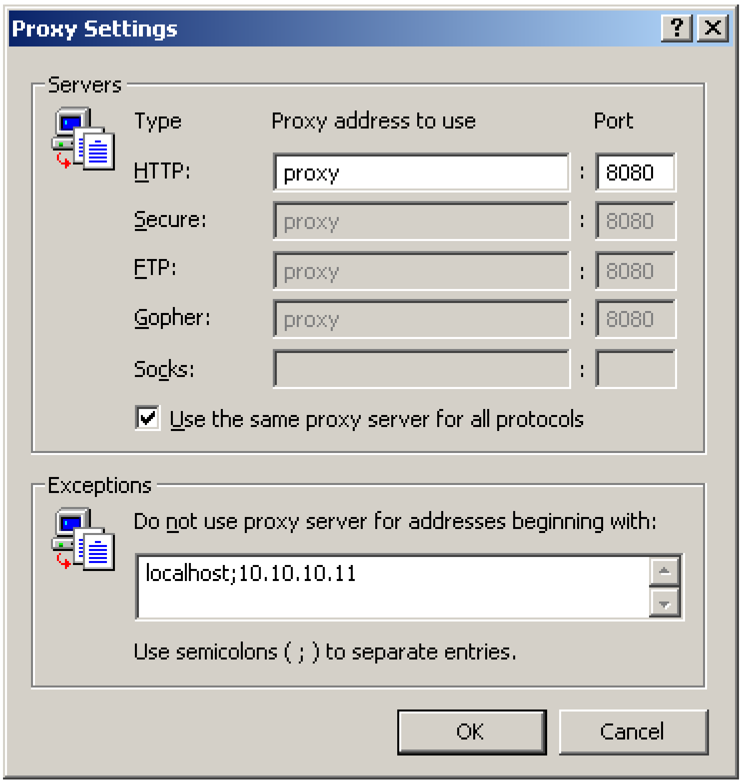
### 5.1.6.1 Internet Explorer

In the Internet Explorer, go to Tools / Internet Options / Connections / LAN Settings/… and remove all proxy settings.



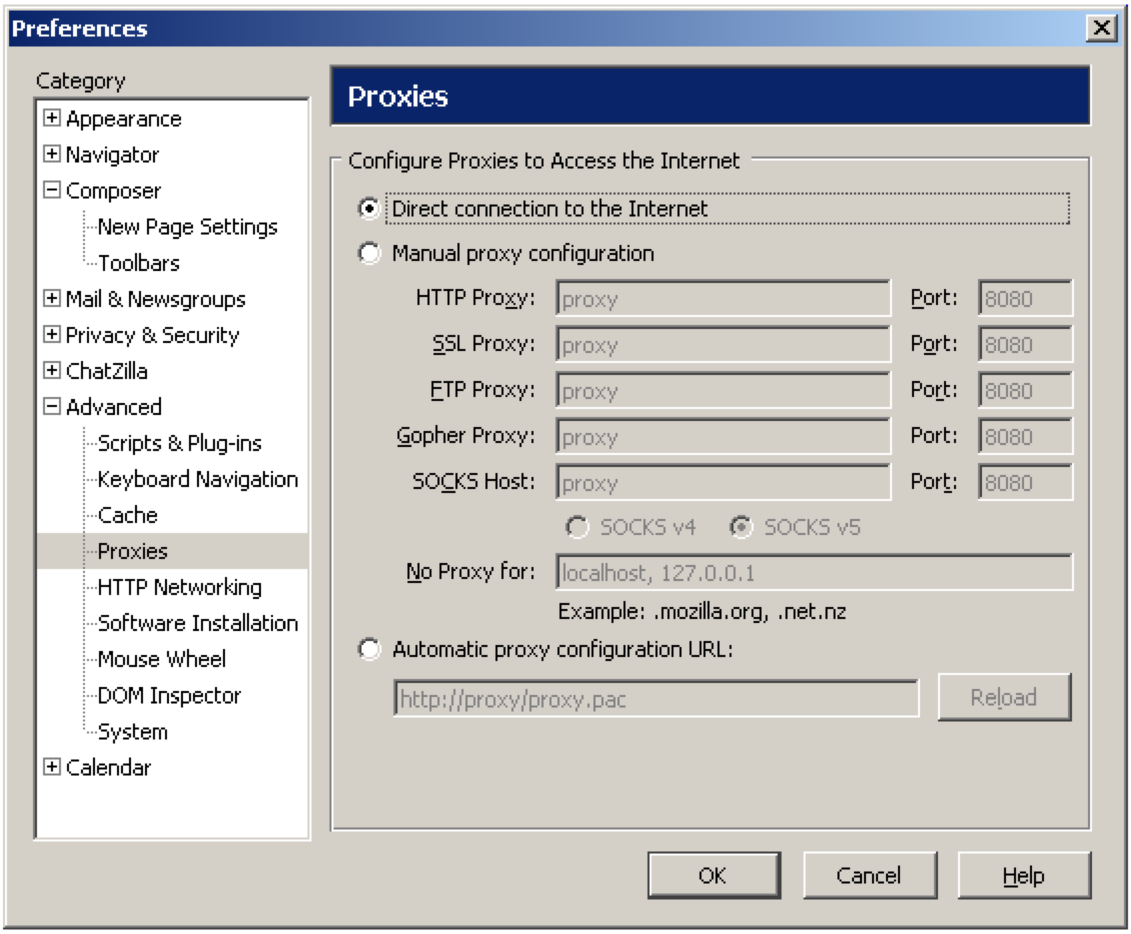

Alternatively, you can select "Bypass proxy server for local addresses" and enter the IP address of your novaWeb device in the "Exceptions" field.



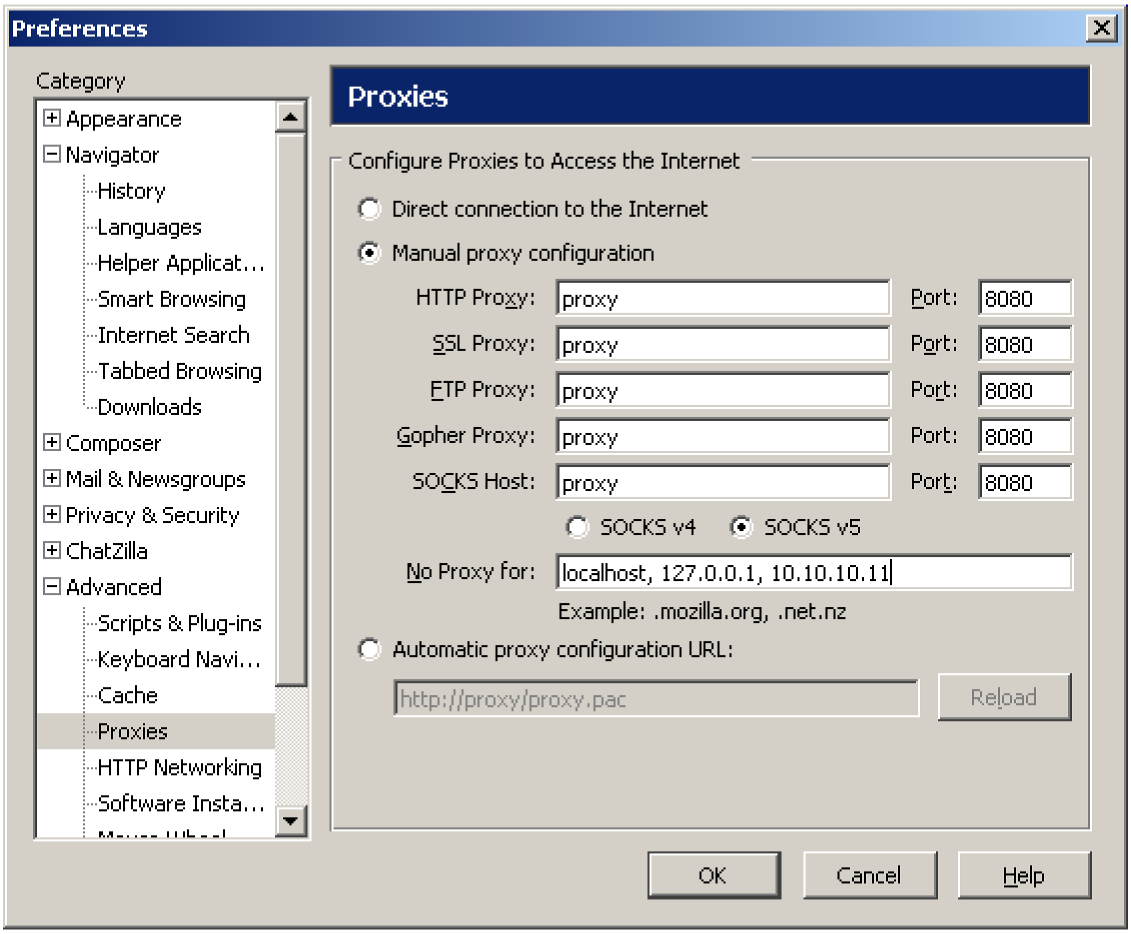

Proxy Settings
Servers
Type
Proxy address to use
Port
HTTP:
proxy
8080
Secure:
proxy
8080
FTP:
proxy
8080
Gopher:
proxy
8080
Socks:
Use the same proxy server for all protocols
Exceptions
Do not use proxy server for addresses beginning with:
localhost;10.10.10.11
Use semicolons ( ; ) to separate entries.
OK
Cancel

### 5.1.6.2 Mozilla

When working with Mozilla, go to "Edit / Preferences... / Advanced / Proxies" and then select "Direct connection to the Internet".



Alternatively, you can select "Manual proxy configuration" and enter the IP number of the novaWeb device in the "No Proxy for:" field.




Now you can open the web pages for the novaWeb (see also the User Manual) and configure the settings according to your needs (see the Configuration Manual).

# 5.2 Operation

## 5.2.1 Introduction



novaWeb is a small embedded Web Server that allows you to visualize your installation via a standard Web Browser. Special attention has been paid to the simplicity of the interface (pure HTML, no ActiveX, Java, etc.) to allow for fast access even with very simple devices such as smart phones.
According to your login level, you can visualize any statuses or measurements, modify setpoints and commands or modify any settings.
Alarms and events (such as value changes) can be sent to up to 4 e-mail recipients.
novaWeb can also send out an e-mail to transfer historic values for billing or long-term backup.
This manual describes the user interactions via a standard PC Web browser (Microsoft Internet Explorer or Mozilla) and via the standard Web browser of a Symbian smart phone (SonyEricsson P900). Since the Web server is based on accepted Internet standards (HTML), any web browser complying to these standards should work identically. However, tests were limited to these programmes.

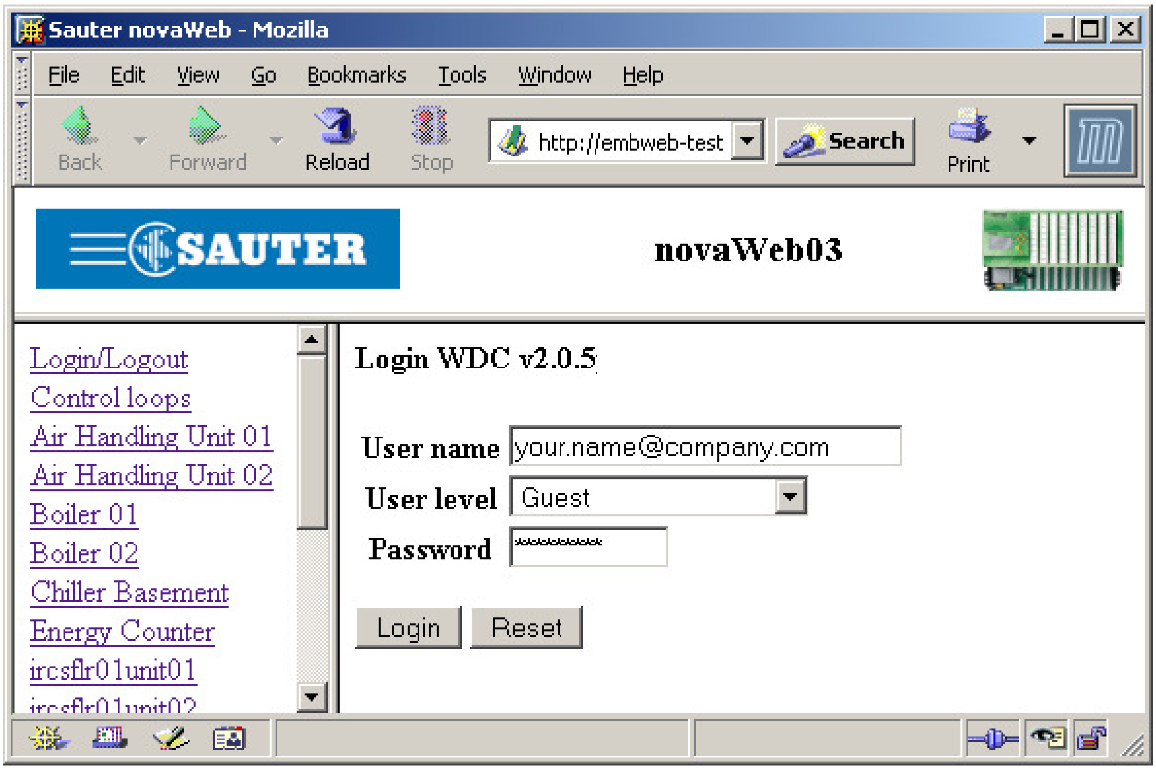
## 5.2.2 Requirements

A standard HTML 4.01-compliant Web Browser which supports frame-based pages is needed for optimal access to novaWeb pages.
For standard Windows PCs we recommend the current versions of MS Internet Explorer (V6.0) or Mozilla (V1.7).
Access via a smart phone or a PDA is also possible. Due to the relatively small size of the screens on these devices, we recommend you to use a special entry page without frames or to bookmark the content page as one of your favourites.

## 5.2.3 Layout and navigation

All standard (HTML4.01-compliant) Internet browsers will show a novaWeb page subdivided into three frames:

<table>
<tr><td colspan="2">Header</td></tr>
<tr><td>Navigation</td><td>Main field (on right)</td></tr>
</table>




The header shows the site's name and several pictures and links.
The content of the main window depends on the selection in the navigation frame on the left.
If any of these three fields cannot be displayed entirely, scrollbars will appear to let you navigate to the location you need.

### 5.2.3.1 Header (top)




Beside the site name you will find the Sauter logo; it may also contain further logos and links to home pages of the installation owner and a maintenance company, etc.

### 5.2.3.2 Navigation (left)

| Navigation link | Display in main field |
|---|---|
| Login/Logout | Login and logout |
| Control Loops | Overview of control loops |
| Air Handling Unit 01 | Installation view<br>- Number of installations according to your site<br>- Access to function descriptions and schematics |
| Air Handling Unit 02 | |
| Chiller Basement | |
| Heating | |

| | |
|---|---|
| Alarms | Alarm list |
| Events | Event logs |
| Service | Service list (AS-oriented) |
| Settings | Configuration pages |

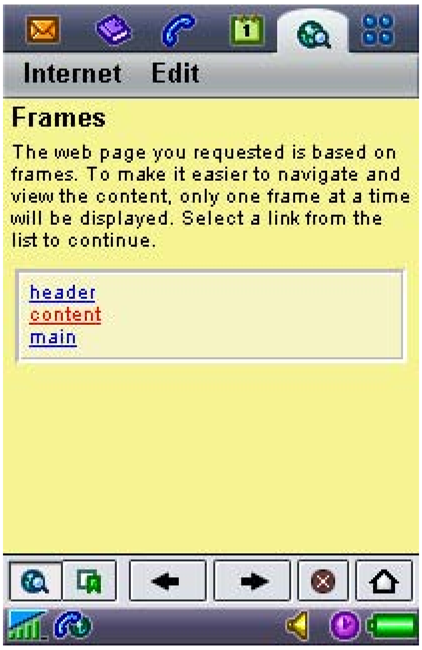
The links to Login/Logout, Control Loops, Alarms and Events are shown for each user. Between Control Loops and Alarms you will see a list of configured installations (e.g. Air Handling Unit 01, Chiller Basement,..) depending on your specific installation. The Settings page is only shown for users with the appropriate user rights.

### 5.2.3.3 Main field (right)

Depending on the selection in the navigation frame, you will see the pages for login/logout, the control loops, installations, etc. as described above.

### 5.2.3.4 Navigation with smart phones

Some smart phone browsers (e.g. standard browser of SonyEricsson P900) cannot show all the fields at the same time. In this case you have to select which one of the three fields should be shown.



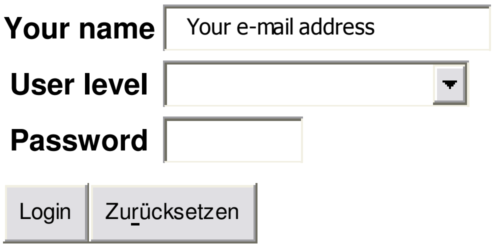

Select "Content" to show the navigation field. From here you can select the page you want to see. The first time you select any page the login page will appear. If you selected another page than the login page, you have to reload the page after login to go to your selected page. To switch to another page, you have to go back to the navigation field.
For easier access, you can bookmark the navigation page (Content) or even specify it as your home page.
Alternatively, you can select the "noframe.html" page. In this case only one menu will be shown, but you still have to go back to the start page before you can go to a different page.

## 5.2.4 Login/logout

To log in, go to the Login page:

- enter your user name (typically your e-mail address),
- select your user level,
- enter your password,

and click on the Login button.




After login you will go directly to the Alarm page to give you initial information.
To log off, just go back to the login page once again (select Login/Logout in the navigator field on the left).

#### 5.2.4.1.1 Version information

During login you always see information about the installed version of your novaWeb station (e.g. novaWeb v2.0.1 means version 2.0.1).

### 5.2.4.2 Your name:

User name/e-mail address e.g.

### 5.2.4.3 User level:

### Guest

As a Guest, no password is required. Guests are only allowed to view the main values for control loops, installations, alarms and events without being able to modify anything.

### User

A standard user has access to all Guest activities plus normal user operations such as confirming alarms, changing setpoints, etc.

### Service

As well as the standard user rights, a Service user has access to the service list, which allows him to modify certain control loop parameters.

**System maintenance**
Only a System maintenance user has access to the system maintenance list in addition to the other authorisations, and he can change the entire configuration (settings page).

### 5.2.4.4 Password

You have to enter the correct password for your user level. The password will be provided by your system engineer and cannot be changed by yourself.

## 5.2.5 Control loops

The Control loops section gives you an overview of the main information about your possibilities for control. You are always shown the current (measured) value, the corresponding setpoint and the difference between them.

| Control Loops | Actual | Setpoint | Diff |
|---|---|---|---|
| Supply Air Temp | 32.6 °C | 34 °C | -1,4 °C |
| Cooling Water Temp | 16.1 °C | 16 °C | 0,1 °C |

To facilitate the handling of your control loops, the deviation (or difference) is shown with a green background for very small deviations, olive for small deviations and yellow for large ones. This system allows a user to see very quickly whether he needs to take action.
The distinction between very small, small and large deviations is based on the type of control loop (indicated by units):

| Unit | Default (no unit) | °C | Pa | kPa | ppm | % | bar | m/s | $m^3/h$ |
|---|---|---|---|---|---|---|---|---|---|
| Very small deviation | | | | | | | | | |
| Borderline between very small and small | 1 | 1 | 30 | 0,3 | 100 | 5 | 3 | 5 | 10 |
| Small deviation | | | | | | | | | |
| Borderline between small and large | 2 | 2 | 60 | 0.6 | 200 | 10 | 6 | 10 | 20 |
| Large deviation | | | | | | | | | |

## 5.2.6 Installations

If you select any installation in the navigation bar, the standard installation view will be shown by default. This consists of the installation view itself plus some additional links related to your site.

## 5.2.7 Installation view

The installation view gives you an overview of your installation, structured as follows:

| **Device** |
|---|
| |
| **Control loops** |
| Control loop 1 |
| |
| Control loop 2 |
| |
| **Outputs** |
| |
| **Monitoring and alarm** |
| |

- Device
  - displays the main devices, such as fans or pumps, together with feed-back signals, commands and alarm statuses
- Control loops
  - shows all datapoints belonging to a control loop grouped together as such.
- Outputs
  - any outputs which are controlled from more than one control loop
- Monitoring and alarm
  - includes all other measurements, meters and alarms which are not directly linked to any of the above sections.

Each of these sections is displayed in up to 4 columns:

| **Header or de-scription** | **Current value or status** | **User interactions** | **Alarms** |
|---|---|---|---|
| **Device** | | | |
| | | | |
| **Control loops** | | | |
| Control loop 1 | | | |
| | | | |
| *Control loop 2* | | | |
| | | | |
| **Outputs** | | | |
| | | | |

| Monitoring and alarm | | | |
|---|---|---|---|
| | | | |

- The first column shows a description
- The second column indicates the current values or statuses.
  - additionally, it provides links to the progression of the value (50.5 °C)
  - or the group of values (Progression).
- The third column shows any possible user inputs such as
  - time programmes (indicated by Change)
  - setpoints (a value such as 54 °C)
  - commands (a command state such as Off)
  - or push buttons (for example).
- In the fourth column alarms are indicated as
  - OK or
  - Alarm

A green background for a control loop (first column) or a status (second column) indicates, if programmed, that this device is running (or is in functioning condition).

| On |
|---|

| Device | Status | Command | Alarm |
|---|---|---|---|
| Time Schedule AHU01 | On | Change | |
| Pump A3 | Off | Off | OK |
| **Control loops** | **Actual** | **Setpoint** | **Alarm** |
| **Temperature of supply air** | Progression | | |
| Outside air divergence | 50.5 °C | | |
| Supply air temp | 42,4 °C | 54 °C | |
| Limit | 0 % | | |
| Cooling valve | 0 % | | |
| Heating valve | 0 % | | |
| **Monitoring and alarm** | | | **Alarm** |
| Fault, pump A | | | OK |

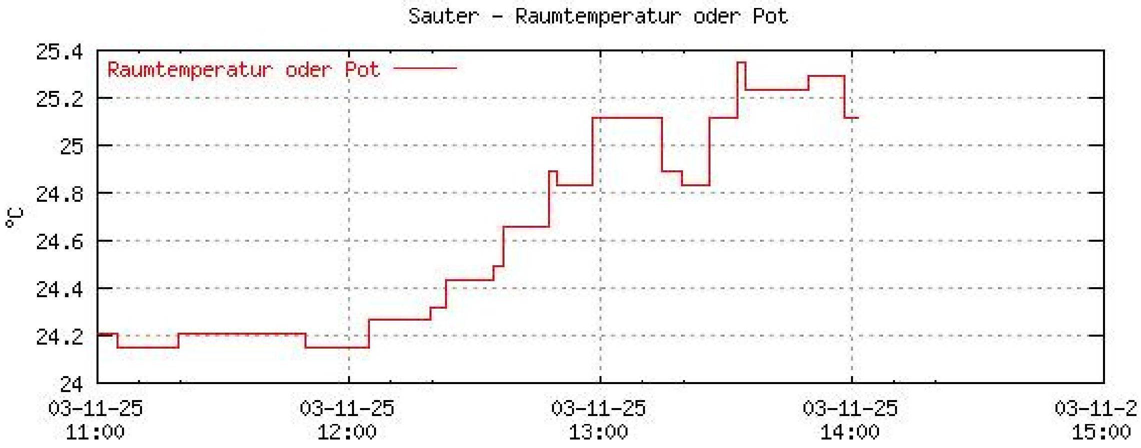
In a more general view you can see the following information:

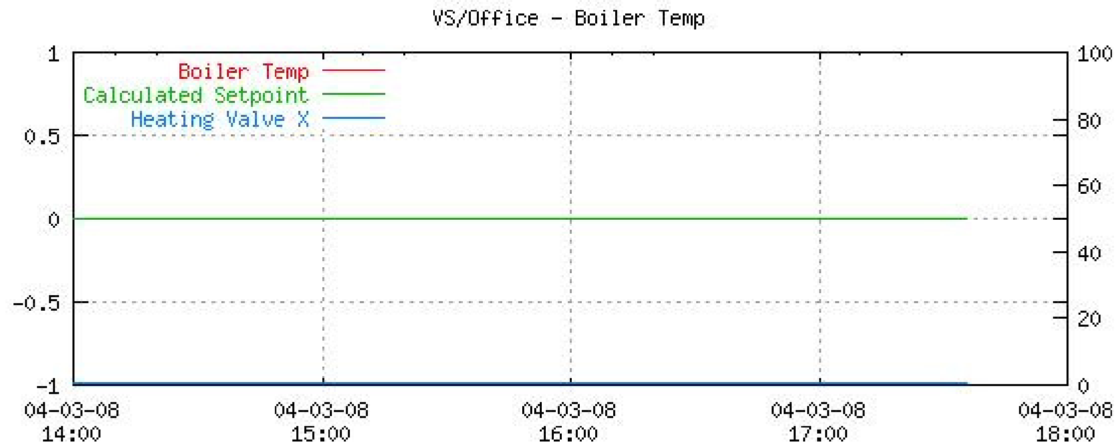
| Device | Status | Command | Alarm |
|---|---|---|---|
| Time schedule | time command status | time command | |
| Digital Indication | digital input<br>digital output | button:<br>change setpoint | alarm |
| | | | |
| **Control loops** | **Status** | **Setpoint** | **Alarm** |
| **Control loop x** | Progression | | |
| Compensation for control loop x | compensation sensor | compensation | |
| Control loop x | main sensor | calculated setpoint<br>setpoint | alarm |
| Cascade controller for control loop x | limit sensor | | |
| Output for control loop x | output | | |
| | | | |
| **Outputs** | **Current** | **Setpoint** | **Alarm** |
| Individual output<br>(not specific to one control loop) | output | | |
| | | | |
| **Monitoring and alarm** | **Current** | **Setpoint** | **Alarm** |
| Common measurement | common sensor | | alarm |
| Meter | meter | | |
| Runtime meter | runtime | button | alarm |
| Individual alarm<br>(not linked to any other value) | | | alarm |

## 5.2.8 Progression

The group progression link (Progression) will show you a diagram of the whole function group (main sensor, setpoint or calculated setpoint and the positioning signal) whereas a simple link for one address (such as 50.5 °C) will show only the progression of this individual point.

| Hours | Days | Weeks | Years |
| --- | --- | --- | --- |




If the whole group is shown, the left scale corresponds to the main sensor and the (calculated) setpoint, whereas the right scale is used for the positioning signal.
The period for the diagram can be selected via the upper table:

| Hours | Days | Weeks | Years |
| --- | --- | --- | --- |

Depending on your selection, you receive the following predefined records:

| Chart | Time period | Recording cycle | Mean value | Min. value | Max. value | File | Saved in | e-mail sent at |
|---|---|---|---|---|---|---|---|---|
| Hours | 4 hours | 30 sec | x | | | k1log | RAM | every hour (x:00) |
| Days | 4 days | 5 min | x | | | k2log | RAM | every day (00:00) |
| Weeks | 4 weeks | 1 hour | x | x | x | l1log | CF Card | every week (Mo 00:00) |
| Years | 1 year | 1 day | x | x | x | l2log | CF Card | every quarter (01.xx. 00:00) |

*These records can be sent via e-mail to any e-mail recipient. For more details about this transfer please refer to the section below.*

## 5.2.9 User interactions

In general, two kinds of user interaction are possible.

- Clicking on a button will always cause an immediate reaction (usually, a value is sent to the AS).
- A link will show a new page. On these pages, you can enter a new value (e.g. a setpoint) or select a new position. In this case the action is only executed after clicking on the Change button. Pressing the Zurücksetzen button will undo any changes since the last confirmed change (this means any user modifications after the last time the Change button was clicked).

After the command is executed, you always receive information about the changes made.

### 5.2.9.1 Button commands

| Device | Status | Command | Alarm |
|---|---|---|---|
| Start-up Chiller 1 | Off | Start Up | OK |

A button can be given different button texts. However, it always functions identically by setting a value to one and resetting it 60 seconds later. During these 60 seconds, the background changes to green to indicate this change. After execution, feedback message will inform you of the change:

**Change value**

Changed command, switch for Pump A (as11chb.pump.pb) from 0 to 1

Button reset with 60 s delay.

### 5.2.9.2 Reset runtime

| Monitoring and alarm | | | Alarm |
|---|---|---|---|
| Runtime, Pump A | 23 | Reset | OK |

The runtime works in a similar way to the corresponding button, by resetting a counter value (runtime meter) to 0 (as you can also see from the feedback).

**Change value**

Changed reset, pump runtime (as11chb.pump.rt.pb) from 0 to 1

Button reset with 60 s delay
(First line only when status actually changes).

### 5.2.9.3 Change time schedules

Time schedules are changed in a dedicated menu which looks like this:

| Profile | On | Off | Mo | Tu | We | Th | Fr | Sa | Su | E |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0730 | 1700 | ☑ | ☑ | ☑ | ☑ | ☑ | ☐ | ☐ | ☐ |
| 2 | 0730 | 1400 | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ | ☐ | ☐ |
| 3 | 0730 | 2100 | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☑ |
| 4 | | | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

It is possible to specify up to 4 programmes for one datapoint. This means that you can specify 4 different time periods for any combination of weekdays and exception periods. For example, you can specify one profile for normal working days (example profile 1), another profile just for Saturdays (example profile 2) and a third one for any exception days or periods (see below).
The valid times are 0000-2359. The switch-off time may precede the switch-on time.

| | | |
|---|---|---|
| Ex. Outdoor light | 2100 | 0400 |

Empty field means no action.

| | | |
|---|---|---|
| Ex. Continuously on | 0000 | |

Next, you can specify certain days or periods when these profiles should not be executed:

| | |
|---|---|
| **Inactive** | 040701-040731,041224 |
| **Exception (E)** | 040228,040327 |

Dates are written using the YYMMDD format and intervals use YYMMDD-YYMMDD
Dates and intervals must be separated with a comma.
In the example above, no time profile will be executed during the vacation season (1 July until 31 July 2004) and on Christmas Eve (24 December 2004). On 28 February 2004 and 27 March 2004, the "Exception" time profile will be executed instead of the normal time profile for this weekday (e.g. instead of the Saturday profile).

### 5.2.9.4 Command

Auto
Off
On

Depending on the type of command, you can put this address in automatic status, switch it off or switch it to any given position.

### 5.2.9.5 Change values

54 °C

To change a value, simply enter the new value and press the Enter key.

## 5.2.10 Additional links

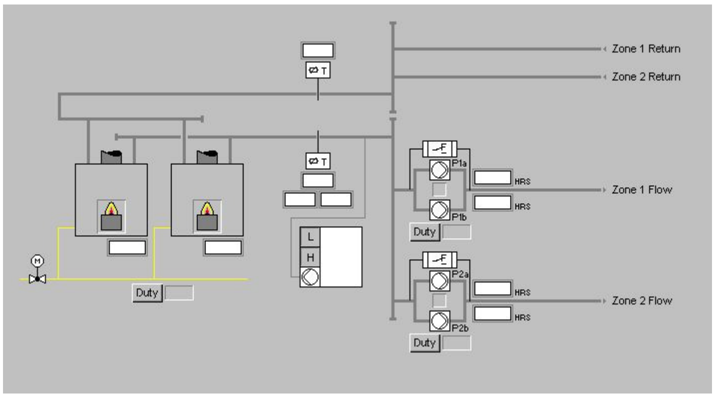
As well as your installation view, you can obtain additional links such as :[ Functional description ] [ Schematics ] [ Service ] [ System maintenance ]
Depending on your installation, you will receive further information about your system via the link to the functional description (an html document) or to the schematic.
For more detailed information, a service list and a system maintenance list are available to users with appropriate rights.

### 5.2.10.1 Functional description

Whether or not the functional description is present, and what it contains, will depend on your installation. It usually contains some information about the how your site functions.

### 5.2.10.2 Schematic

The Schematic picture usually shows a sketch of your installation with references to your datapoint list.




## 5.2.11 Service view

The Service list is only shown with Service or Maintenance user rights. As well as the standard installation datapoints, it shows some extra parameters which are not relevant to the standard user, in a simple list.

| Description | Value | Name |
|---|---|---|
| Command: switch, Pump A | 0 | as11ahu01.pumpa.sw |
| Outside air divergence | 50.6 °C | as11ahu01.supaircontr.cs |
| Limit | 0 % | as11ahu01.supaircontr.ls |
| Supply air temp | 42.5 °C | as11ahu01.supaircontr.ms |
| Heating valve | 0 | as11ahu01.supaircontr.out1 |
| Cooling valve | 0 % | as11ahu01.supaircontr.out2 |
| Heating valve | 0 % | as11ahu01.supaircontr.out3 |
| Supply air setpoint | 54 °C | as11ahu01.supaircontr.sp |

## 5.2.12 System maintenance view

The system maintenance list is very similar to the service list. As well as the information in the service list, you obtain more information about datapoints, intended for system maintenance level users only.

| Name | Value | Description |
|---|---|---|
| as11ahu01 | 0 | Air Handling Unit 01 |
| as11ahu01.pumpa.al | 0 | Fault, Pump A |
| as11ahu01.pumpa.do | 0 | |
| as11ahu01.pumpa.sw | 0 | Command: switch, Pump A |
| as11ahu01.supaircontr.cs | 50.6 °C | Outside air divergence |
| as11ahu01.supaircontr.ls | 0 % | Limit |
| as11ahu01.supaircontr.ms | 42.5 °C | Supply air temp |
| as11ahu01.supaircontr.out1 | 0 | Heating valve |

| | | |
|---|---|---|
| as11ahu01.supaircontr.out2 | 0 % | Cooling valve |
| as11ahu01.supaircontr.out3 | 0 % | Heating valve |
| as11ahu01.supaircontr.sp | 54 °C | Supply air setpoint |
| as11ahu01.supaircor.sp | 0 | |
| as11ahu01.time schedule.tc | 1 | Time schedule AHU01 |

## 5.2.13 Alarms

In the default setting, you can see all the alarms in the alarm list that are not yet acknowledged or are still active.

**Alarms**

| Status | Text | Time | Name |
|---|---|---|---|
| Acknowledge | Frost Protection Alarm | 2004-07-21 15:18:02 | ahu02.otemp.al |

### 5.2.13.1 View all active or all generated alarms

With the Alarm link at the top of the alarm list, you can switch between the list of active alarms and the list of all generated alarms.

| Status | Text | Time | Name |
|---|---|---|---|
| Acknowledge | Frost Protection Alarm | 2004-07-21 15:18:02 | ahu02.otemp.al |
| OK | novaNet AS 5 fault | 2004-07-21 15:17:01 | sys.sauter.as5.al |
| OK | novaNet AS 10 fault | 2004-07-21 15:17:01 | sys.sauter.as10.al |
| OK | novaNet Bus fault | 2004-07-21 15:17:00 | sys.sauter.busfail.al |
| OK | Alarm, runtime, return air controller | 2004-07-21 15:18:01 | reg.rac.rt.al |

The list of all generated alarms also shows the alarm datapoints which are currently OK.

### 5.2.13.2 Alarm priorities

According to the importance of an alarm, its background will be shown in different colours:

| |
|---|
| Emergency |
| Alert |
| Critical |

| |
|---|
| Error |
| Warning |
| Note |

### 5.2.13.3 Acknowledging

If a new alarm appears, the Acknowledge link is shown at the same time to indicate that the alarm has not yet been acknowledged. After the acknowledgement is completed, the alarm will remain active if the alarm condition is still met; otherwise, alarm will disappear. An alarm will only be treated as normal (not active) after the alarm condition has disappeared and (!) the alarm has been acknowledged.

### 5.2.13.4 System errors

Some alarm datapoints are generated automatically by the system to indicate critical system errors:

| | | | |
|---|---|---|---|
| OK | novaNet-Bus error | 2004-07-20 13:59:25 | sys.sauter.busfail.al |

A novaNet bus error is shown whenever no communication arrives within a certain time period.

| | | | |
|---|---|---|---|
| OK | novaNet AS 10 error | 2004-07-20 16:55:09 | sys.sauter.as10.al |

For each AS, an alarm is generated to indicate a communication error to this AS.

## 5.2.14 Events

The following events can be tracked in the event list:

- all user interactions
  - acknowledging alarms
  - changing values (setpoints, commands, buttons, runtime)
  - changing settings (language, etc.)
- any (incoming or outgoing) alarms
  - normal alarms
  - system alarms (bus error, AS error, internal system error)
- manual user entries
  - according to entry (at least user level required)

| | | |
|---|---|---|
| Beschreiben Sie das hinzuzufügende Ereignis hier | Benutzer | Hinzufügen |

If you want to enter any information manually, you can enter a description in the form to the left, select a domain and press the Add button.

| Time | Text | Domain | Priority | Source |
|---|---|---|---|---|
| 2003-11-12 10:01:30 | Changed cooling water setpoint (as11chb.control.sp) from 8 to 9 | User | Info | peter.hohm@ch.sauter-bc.com |
| 2003-11-12 09:58:21 | Changed supply air setpoint (as11ahu01.supaircontr.sp) from 34 to 54 | User | Info | peter.hohm@ch.sauter-bc.com |
| 2003-11-12 08:12:34 | as13ircsfl001hu0002.al ac-knowledged | User | Info | peter.hohm@ch.sauter-bc.com |
| 2003-11-11 16:05:03 | Changed time schedule as10ahu02.timeschedule.tc | User | Info | peter.hohm@ch.sauter-bc.com |
| 2003-11-11 15:55:43 | BINARY INPUTALARM =Alarm | Heating | Debug | as2bacnet.1princbis120 |
| 2003-11-11 14:33:24 | Changed modem settings | User | Info | peter.hohm@ch.sauter-bc.com |
| 2003-11-07 15:03:38 | NovaNet AS 10 failure =alarm | Heating, Ventilation | Error | sys.sauter.as10 |
| 2003-11-07 14:44:43 | Changed supply air setpoint (as11ahu01.supaircontr.sp) from 25 to 27 | User | Info | peter.hohm@ch.sauter-bc.com |

One part of the event list can contain up to 200 entries. As soon as more than 200 entries exist a new list is created and becomes part 1. The old list becomes part 2 and so on. This means that up to 800 entries can be tracked. The newest entries are always in part 1 (which is shown by default), and the oldest entries are in part 4.

Part 1 Part 2 Part 3 Part 4

## 5.2.15 Service

The Service page contains a list of all AS that are handled in your system.

AS1 AS2 AS3 AS4 AS6 AS20505

After selecting one of your AS you will see a list of all the datapoints for this AS.

| | Name | Value | Description |
|---|---|---|---|
| 6:0 | mfa0 | 27.9 °C | Office temperature |
| 6:1 | mfa1 | 4.5 °C | Outdoor temperature |
| 6:2 | mfa2 | 2.1 °C | EGT330 room sensor |
| 6:52 | bi52 | Aus | BI52 |
| 6:65 | alarmbisoft52 | Alarm | ALarmBiSoft52 |

The first column shows the AS address and MFA (datapoint address), followed by the name, the current value and a description on the same line.

# 5.2.16 Settings

Access to the settings pages depends on your user rights.

- Guests cannot access the setting pages at all
- Users can only access the Data acquisition page to fetch historical data
- Service users can access and change the alarm, data acquisition, system name and clock settings
- System Maintenance users can access and change everything.

## 5.2.17 Data entry

| Hours<br>30-sec. values<br>every hour | Days<br>5-min. values<br>every day | Weeks<br>hourly min,mean,max<br>every week | Year<br>daily min,mean,max<br>every quarter |
|---|---|---|---|

Similarly to data acquisition transfer via e-mail, you can select and view or save the historic values of any of the four time periods (Hours, Days, Weeks and Year). You can use your browser's context menu (right mouse click) "Save Link Target As..." (Mozilla) or "Save Target As..." (MS IE) to save the historic data into a csv-format html file, which you can then import to your favourite spreadsheet programme such as MS Excel (see also Processing of Data Acquisition Files). Alternatively you can open the relevant web page to look at the values directly and/or open the source from the context menu (Mozilla: "This Frame / View Frame Source" or MS IE: "View Source Text").

## Typical data acquisition table

```
#dateTtime±zone gev.om.ms          gev.om.out1     gev.om.sp
2004-07-22T09:00:30+0200           7.99561 7.99561 7.93457 0
2004-07-22T09:01:00+0200           7.99561 7.99561 7.99561 0
```

You can also save the data from the source page with the 'Save as' command.

# 5.2.18 E-mail messages

Depending on the configuration of your installation, you can receive e-mail notifications about alarms or events. The historical data can also be transferred also via e-mail on the basis of an individual time setting.

## 5.2.18.1 Alarm and event notification via e-mail

Depending on your installation, alarms and events will be transmitted via e-mail directly to your e-mail client or forwarded to SMS.

### 5.2.18.1.1 Header

The header can be processed by an automated e-mail client program. It contains the following information:

- Subject
  - Alarm or event, site and datapoint address
- X-Priority
  - the standard e-mail priority (normally indicated via a flag in your e-mail client)
  - from 1 (highest) until 5 (lowest)
- X-WDC-DOM
  - novaWeb domain
- X-WDC-PRI
  - novaWeb priority (same as for alarms)
- X-WDC-EID
  - site and datapoint address together with current status

As an example, a bus error on the VS Office site could be sent like this:
Subject: Alarm, VS/Office/sys.sauter.busfail
X-Priority: 3 (Normal)
X-WDC-DOM: SYS
X-WDC-PRI: ERR
X-WDC-EID: VS/Office/sys.sauter.busfail=1

#### 5.2.18.1.2Content

The content of the e-mail notification explains the error in a full text message such as: "NovaNet Bus failure".

### 5.2.18.2 Data acquisition via e-mail

As a further option, the historic values of your novaWeb can be sent to certain e-mail clients according to a defined time schedule. Four different type of logs corresponding to the four historic charts cover either the last four hours, the last four days, the last four weeks or the whole of the last year.

#### 5.2.18.2.1Header

As well as the alarm and event notification, you will find some additional information in the data acquisition header which could be processed by an automated e-mail client: The subject describes the type of log file, WDC-DOM specifies the domain (always SYS), the WDC-PRI gives you the priority (INFO) and the WDC-EID again specifies the site (e.g. VS Office), the type of e-mail (data acquisition) and the file name.
Subject: Data acquisition, VS Office/DAQ/K1LOG
WDC-DOM: SYS
WDC-PRI: INFO
WDC-EID: VS/Office/DAQ/K1LOG

#### 5.2.18.2.2Contents and attachment

The historical values are sent directly in the message, together with a csv file (comma-separated values) as an attachment. Depending on the type of log, it will contain up to three values (mean, min and max) for a datapoint registered according to a specified recording cycle over a certain time period:

| Chart | Time period | Recording cycle | Mean value | Min. value | Max. value | File | Saved in | e-mail sent at |
|---|---|---|---|---|---|---|---|---|
| Hours | 4 hours | 30 sec | x | | | k1log | RAM | every hour (x:00) |
| Days | 4 days | 5 min | x | | | k2log | RAM | every day (00:00) |
| Weeks | 4 weeks | 1 hour | x | x | x | l1log | CF Card | every week (Mo 00:00) |
| Year | 1 year | 1 day | x | x | x | l2log | CF Card | every quarter (01 Jan, Apr, Jul and Oct 00:00) |

## Type K log

| #dateTtime±zone | as15ahu01.supaircontr.ms | as15ahu01.supaircontr.cs | ... |
|---|---|---|---|
| 2004-01-27T14:00:30+0100 | 20.3 | 0.4 | |
| 2004-01-27T14:01:00+0100 | 20.4 | 0.5 | |
| 2004-01-27T14:01:30+0100 | 20.4 | 0.5 | |
| 2004-01-27T14:02:00+0100 | 20.2 | 0.5 | |

In the K1LOG and the K2LOG, only the mean value is logged.

## Type L log

| #dateTtime±zone | ircsflr01unit01.fc.ms | ircsflr01unit01.fc.ms.min | ircsflr01unit01.fc.ms.max | ... |
|---|---|---|---|---|
| 2004-03-01T01:00:00+0100 | -74.0265 | -74.0439 | -73.9297 | |
| 2004-03-01T02:00:00+0100 | -74.0287 | -74.0439 | -73.9868 | |
| ... | | | | |

The L1LOG  and L2LOG record the minimum and maximum values as well as the mean value, to give greater accuracy.

# 5.2.18.2.3 Saving

If you are processing these e-mail messages manually, you should open the message and save the attachment at the location you want so that you can carry on working with them. Depending on your needs, you should rename them to specify the site or the time period etc.

## 5.2.18.2.4 Processing data acquisition files

To ensure efficient monitoring and optimization of energy and media consumption, we recommend the use of a monitoring and optimization tool such as **EY3600 novaPro EBal.**

A further possibility is to use a standard spreadsheet programme such as **MS Excel** or **OpenOffice Calc**. In this case you have to import and process the data manually. Since the data are saved as a tab-delimited table you have to open or import the table as appropriate.

## 5.2.19 Hints

### 5.2.19.1 Updating HTML pages

The visualising of any values relies entirely on HTML technology. In order make everything available via all standard HTML browsers, including mobile telephones, no Java or Active-X technology has been used. Therefore, all the values shown on these web pages correspond to the novaWeb values at the time when the page is loaded. To refresh a page you have to reload it manually.

### 5.2.19.2 Transferring alarms and historical data

The transfer of alarms, events and historical data to an e-mail account and especially any further processing (such as forwarding as SMS) relies on the availability of these providers and services. For example, if a dial-up access point is not available at the time of an alarm transmission, novaWeb makes several repeat dialling attempts, but will fail to transfer this message if the access point is not reachable within a reasonable time. If a mobile phone cannot be reached within 24 hours (depending on the SMS provider), no SMS message will be delivered.

### 5.2.19.3 Security

Security requirements can vary tremendously depending on the importance of the monitored site (from simple heating up to danger to life). Please discuss your specific security needs with an IT professional. He will advice you on password management (regular changes, etc.), firewalls and further security measures.

## 5.2.20 Tips and tricks

### 5.2.20.1 Reload / refresh button after user entries

The "Reload" (Mozilla) or "Refresh" (MS Internet Explorer) button resends the last information. This can lead to errors after changing values, acknowledging alarms, etc. If you want to refresh your page contents after changing something, it is preferable to use the appropriate link (installation, alarms, etc.) from the navigation field instead of the reload or refresh button.

## 5.2.20.2 Cache

Especially with mobile telephones, pages are not always loaded freshly each time. Try to empty the cache and use the reload / refresh button to force loading of the current page information.

## 5.2.20.3 Memory settings

Since the short-term historic values are only saved to the RAM memory, please avoid switching novaWeb off as far as possible. All other settings (configuration, time programmes, etc.) are saved to the flash memory.

## 5.2.20.4 Cookies

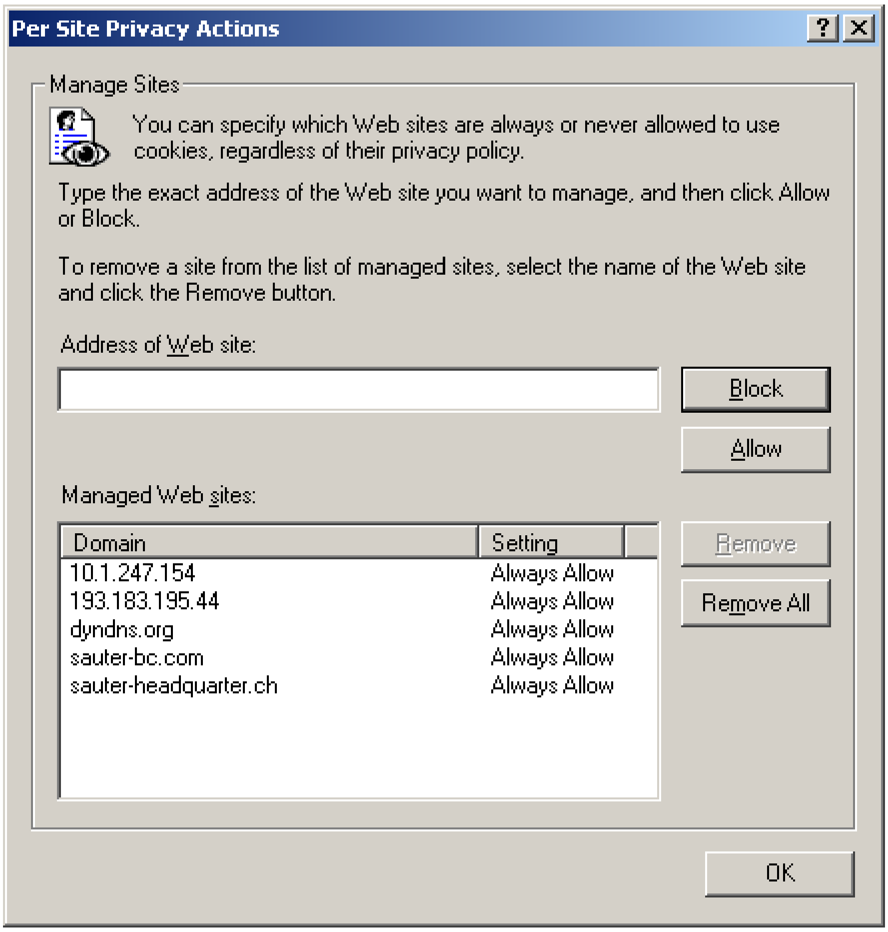
Cookies must be enabled for session management (at least for this site).

### 5.2.20.4.1 Cookie settings for MS Internet Explorer

If you are using MS Internet Explorer, go to "Tools / Internet Options / Privacy" and specify your privacy settings for the required zone (e.g. Internet zone) as "Medium High" or lower.

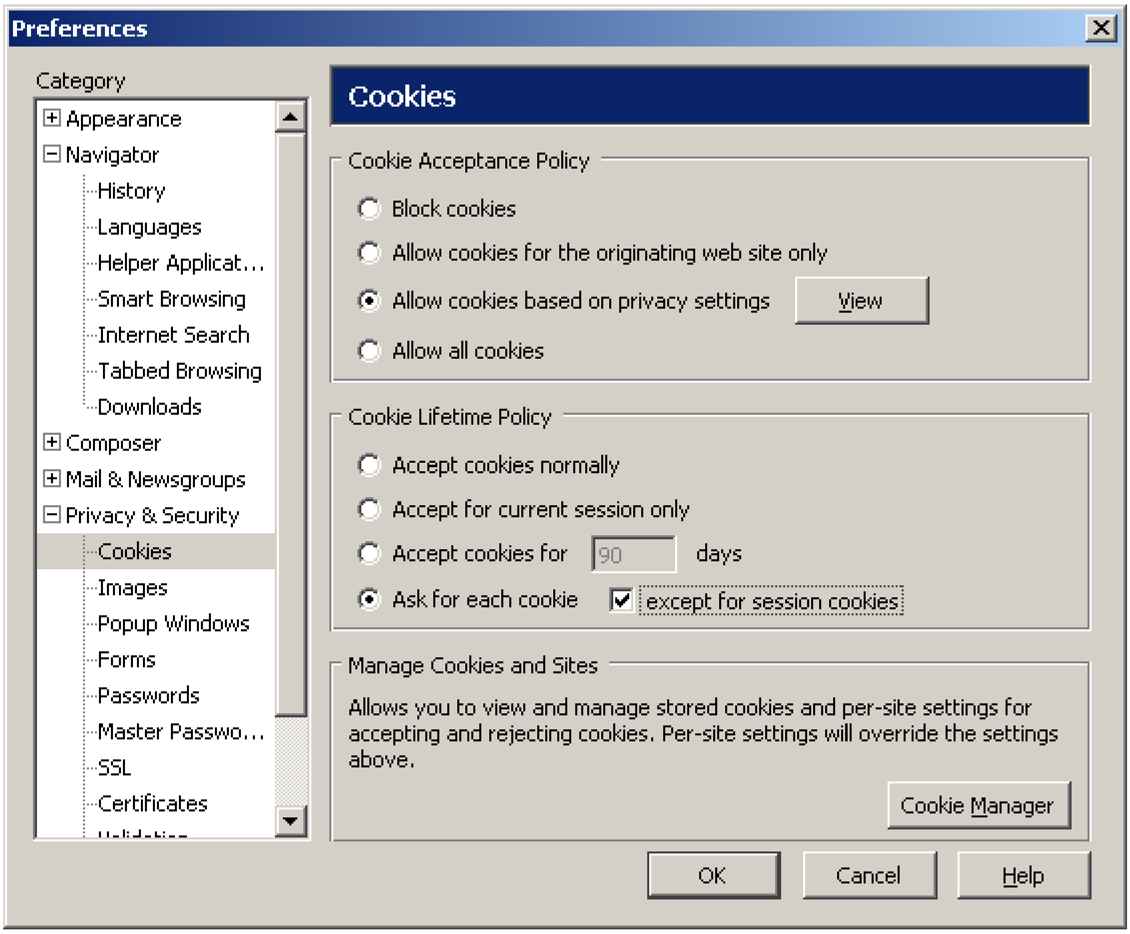


You can also specify the Cookies setting for individual web sites to "allow" cookies for the site:



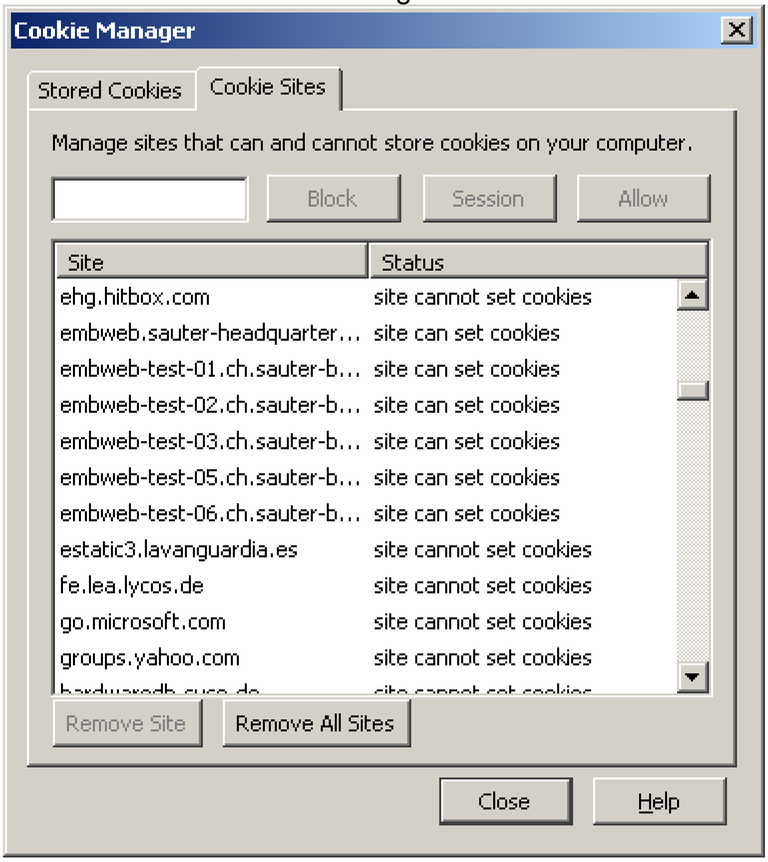

#### 5.2.20.4.2 Cookie settings for Mozilla:

If you are using Mozilla, go to "Edit / Preferences... / Privacy & Security / Cookies" and either select 'Enable all cookies' or 'Enable cookies based on privacy settings':




If you also select 'Ask me before storing a cookie' you can go to the novaWeb site where you are asked if you want to allow the creation of cookies.

You can use the Cookie Manager to check whether cookies are allowed for your site:




If cookies are blocked for this site, select "Tools/Cookie Manager / Unblock Cookies from this site" to allow the site to set cookies again.

### 5.2.20.4.3 Cookie settings for the SE P900

In the Sony Ericsson P900 Internet Browser, go to "Edit / Preferences / Security" and then mark "Allow cookies":



## 5.2.21 JavaScript

On the start page (index.html), JavaScript is used to forward users with small screens to the frameless start page (Menu.html). So in this case, JavaScript should be enabled to make use of this functionality.

## 5.2.22 Language settings

All novaWeb pages are written so that they will display correctly in countries with western European language settings (Latin 1 Language Page).
User in countries with a different language page (e.g. Turkey, Russia, etc.) have to select the correct character encoding.

### 5.2.22.1 Language settings for the Internet Explorer

For the Internet Explorer, go to 'View / Encoding / Western European (ISO)'.

### 5.2.22.2 Language settings for Mozilla

The language settings for Mozilla can be checked at "View / Character Coding"; they must be "Western (ISO-8859-1)".

### 5.2.22.3 Language settings for the SE P900

The standard Web browser of the Sony Ericsson P900 only shows the characters of the selected language correctly. If you want to visualise any web pages which include special characters (e.g. öäüéàè..) you have to select the appropriate language under "Control panel / Other / Language selection".

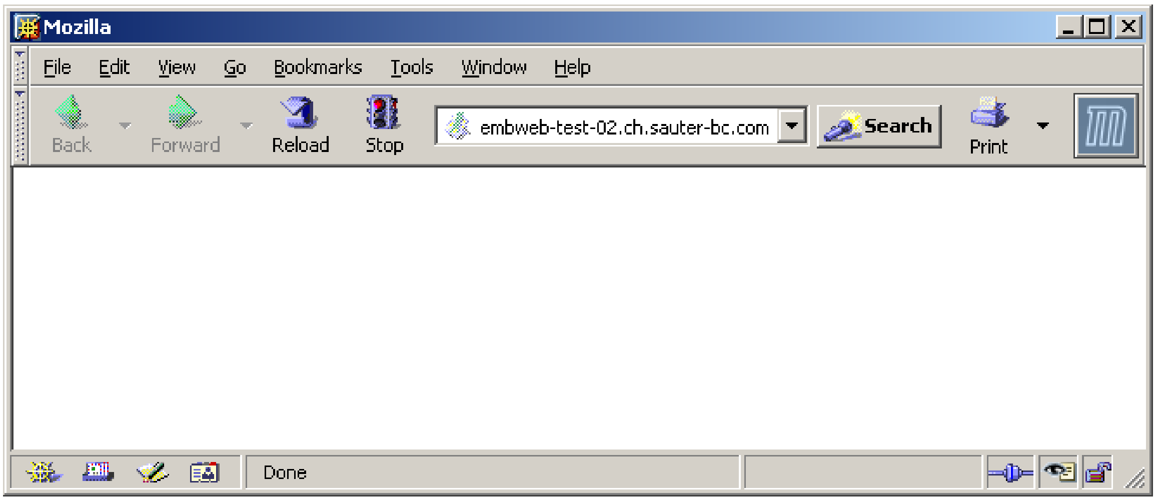
## 5.2.23 Connection

In general there are two basic set-ups. Either you are directly connected to your site via TCP/IP, in which case you only have to enter the corresponding address to reach the novaWeb sites. Otherwise, the connection has to be established manually or automatically when you try to access the web server. This is called a dial-up connection.

### 5.2.23.1 Direct TCP/IP connection

To connect to novaWeb you have to enter its URL (Uniform Resource Locater). A URL is defined as follows:

- protocol://host name [:tcp-port] [/access path] [/file name] [further options]
- e.g. http://embweb02.ch.sauter-bc.com:8080/index.html

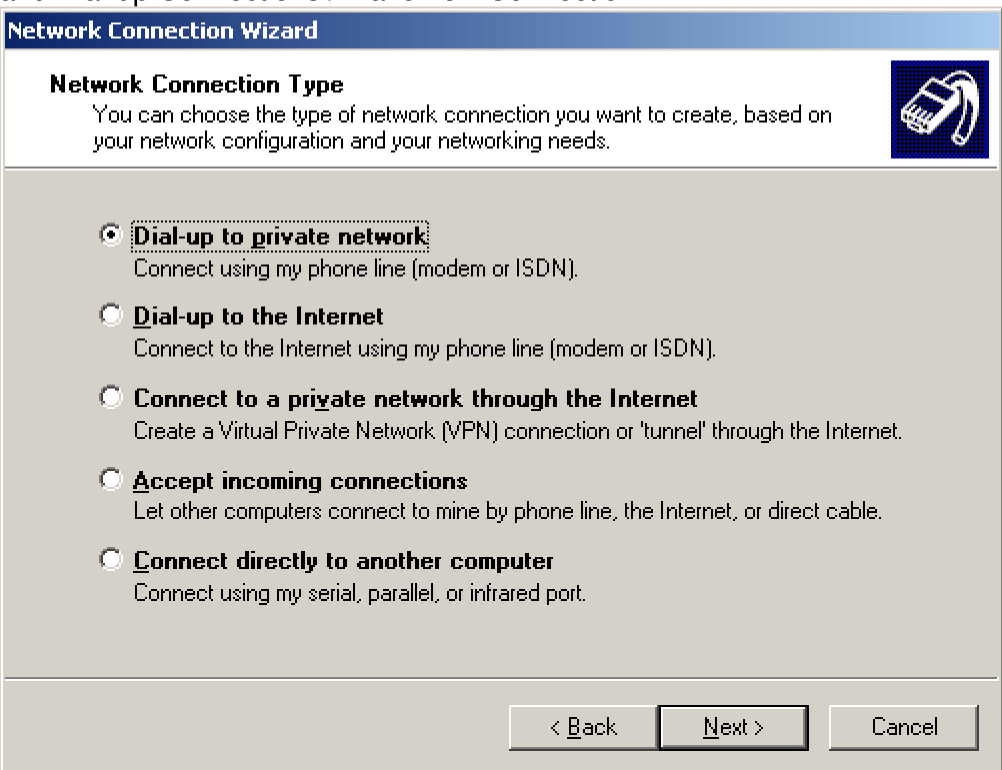



Normally it is sufficient to enter the IP address (z. B. 10.1.247.154) or the host name (e.g. embweb02.ch.sauter-bc.com). All standard web browsers add http by default. The port only needs to be added if http is not running at the default port 80.

## 5.2.23.2 Dial-up (PPP) connection

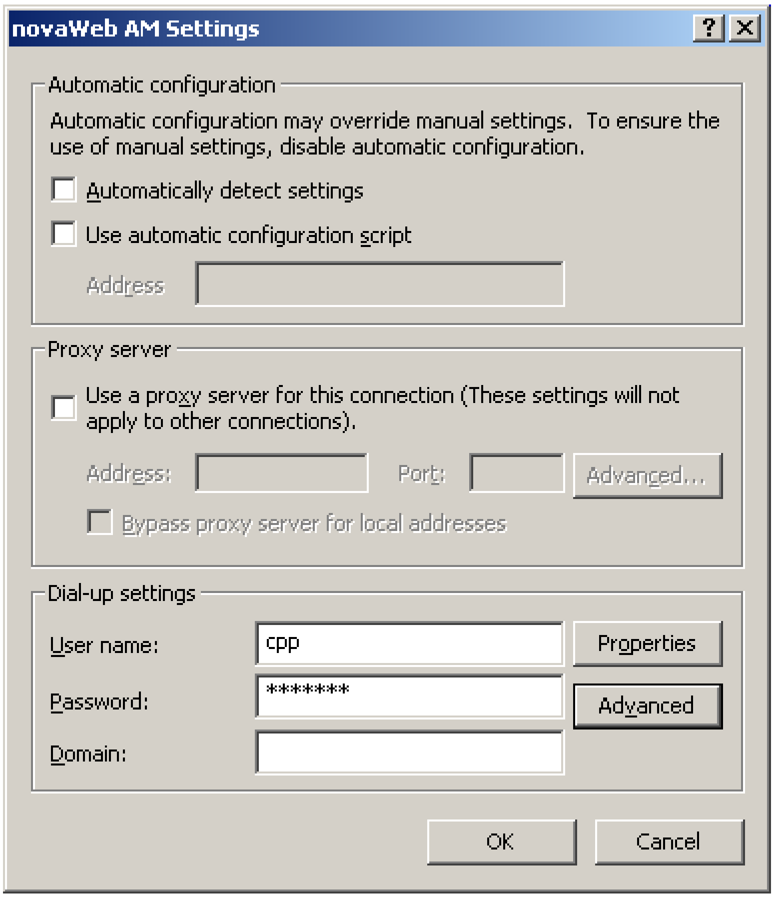
### 5.2.23.2.1 PC Dial-up connection

If you want to use a dial-up connection, e.g. via an analogue modem, you have to configure the connection. In MS Windows XP, you can do this via Start / Settings / Networks and Dial-up Connections / Make new Connection:

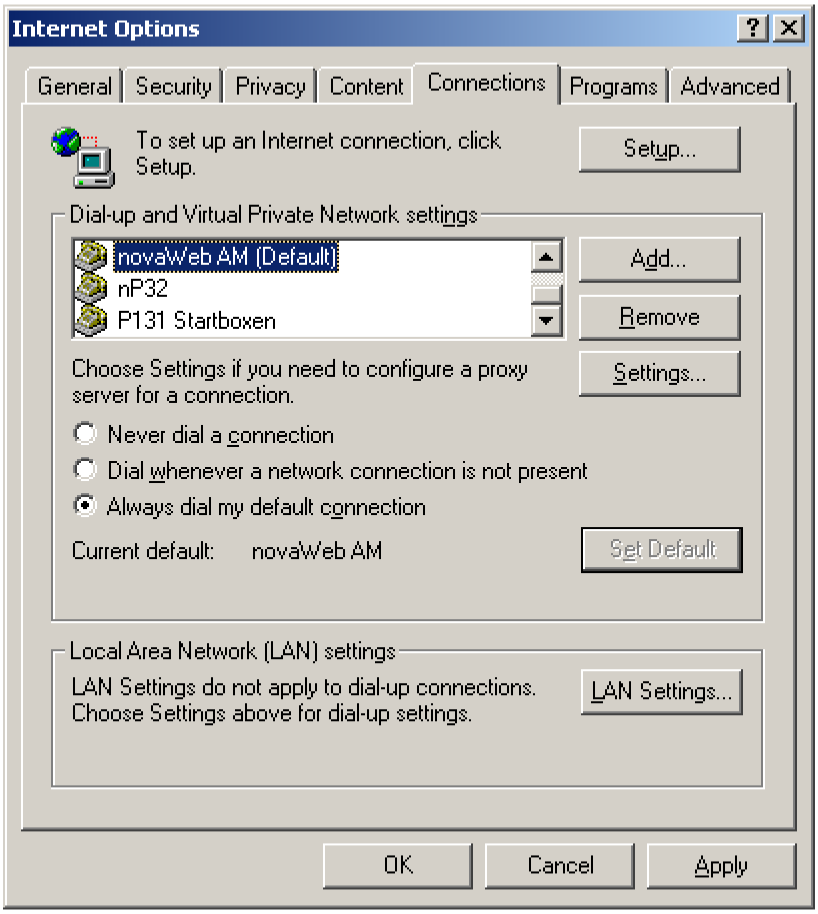


You should select "Dial-up to private network" to connect directly from your PC modem to the modem connected to the novaWeb. If your novaWeb is connected to the Internet you should select this option.

In the first case (private network) you have to specify the user name and password for the dial-in server of the novaWeb:



Depending on your installation (type of connection,  Internet Browser, etc.) this dial-up connection can be established automatically by your browser (MS IE) when you open the novaWeb site:




When working with other web browsers such as Mozilla, you have to establish the connection manually via the MS Windows Connections.
In some cases, for example if you are using an AVM ISDN card, you have to use the corresponding proprietary software to establish the connection.

### 5.2.23.2.2 SE P900 Dial-up Connection

With modern GSM devices, you can transmit data via a CSD, HSCSD or GPRS connection. At the time of writing, UMTS was still not very widespread and therefore it is not dealt with in the current version of this manual.
CSD (Circuit Switched Data) is the standard continuous data transmission with 14.4 kBit/s, which is traditionally used for voice transmission.
HSCSD (High Speed CSD)  bundles several CSD transmission channels together to allow higher transmission rates (normally up to 56 kBit/s).
GPRS (General Packet Radio Service) is a packet switched data transmission which is also much faster than CSD (also up to 56 kBit/s). Theoretically, the connection is constantly present, but you only pay for the actual data volume.
Since novaWeb pages are optimised for mobile communication (small data volume), we generally recommend you to use a GPRS connection.
To verify your connection settings, to create a new connection or modify an existing one you have to select "Control panel" in the application menu:




Go to the Connections tab:

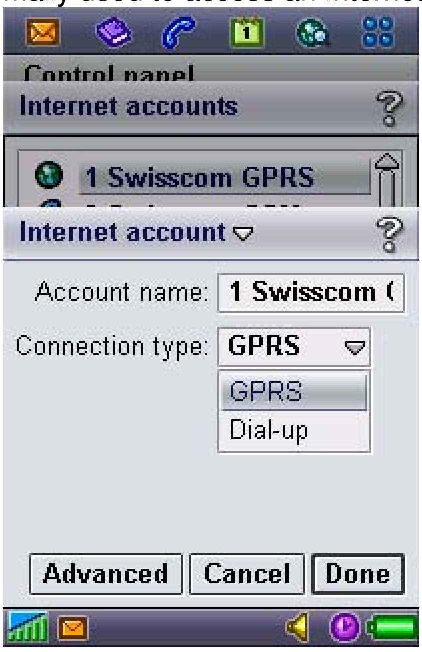



And select "Internet accounts".

Normally you will receive a list of preconfigured connections from your telephone provider:



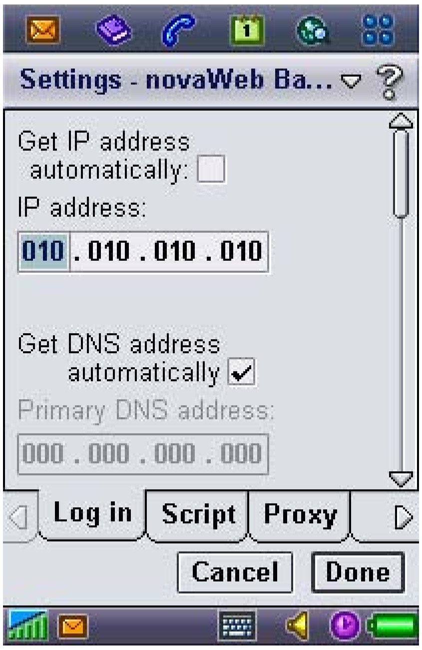

Two connection types can be generated: GPRS or dial-up. A GPRS connection is normally used to access an Internet provider (such as Swisscom):



A dial-up connection is used to connect to an analogue modem, a GSM modem or an ISDN adapter. In this case you have to enter the phone number that you want to connect to, and the user name and password for the dial-in server of your novaWeb device:

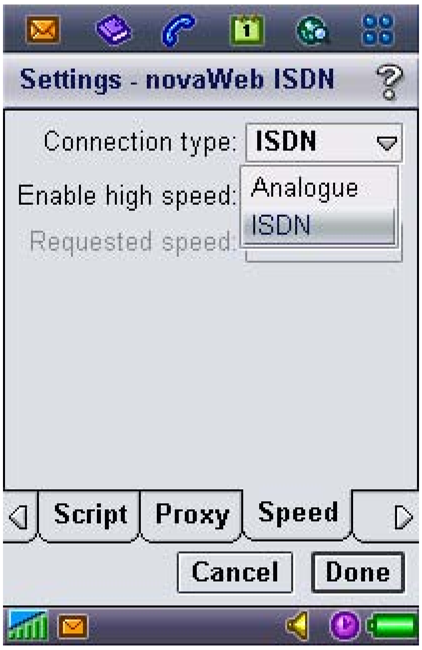



If you choose a dial-up connection, you have to enter an IP address which belongs to the same network as the one configured in the novaWeb (but not the same address):




When connecting via an Internet provider, you will receive an IP address automatically from this provider (and you should therefore tick the relevant box).

For a dial-up connection, you have to specify whether you have an analogue or ISDN connection. When calling a GSM modem, you must also select 'Analogue':

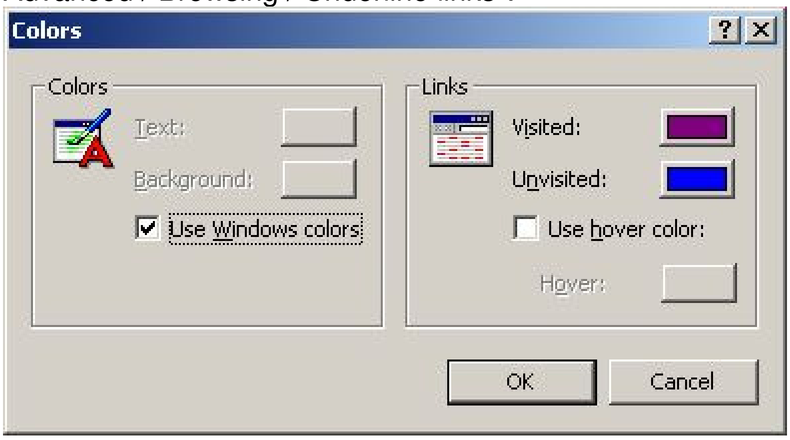


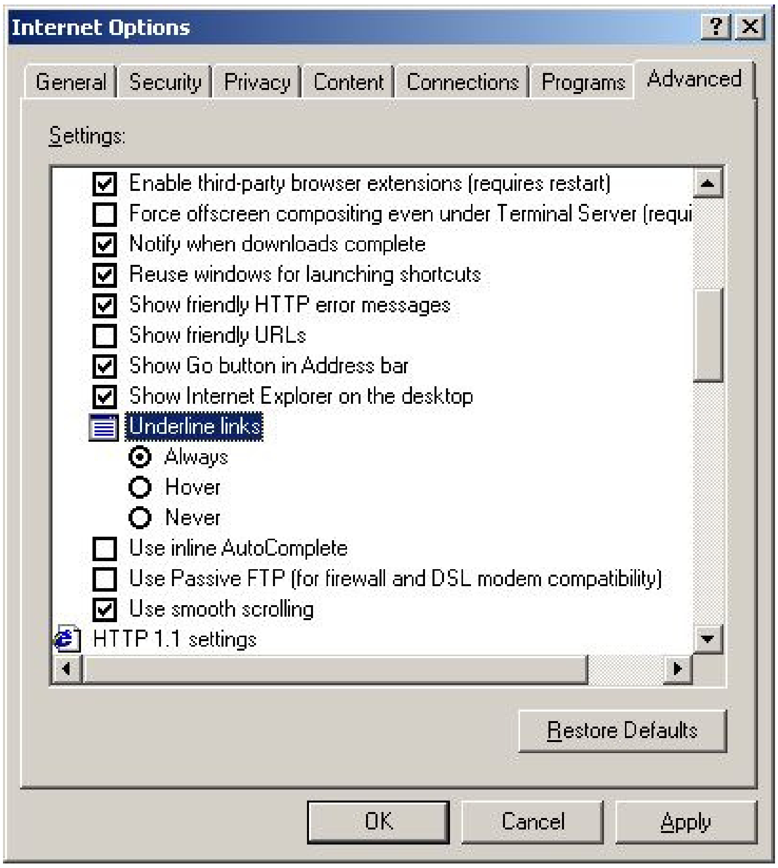

## 5.2.24 Appearance

### 5.2.24.1 Links

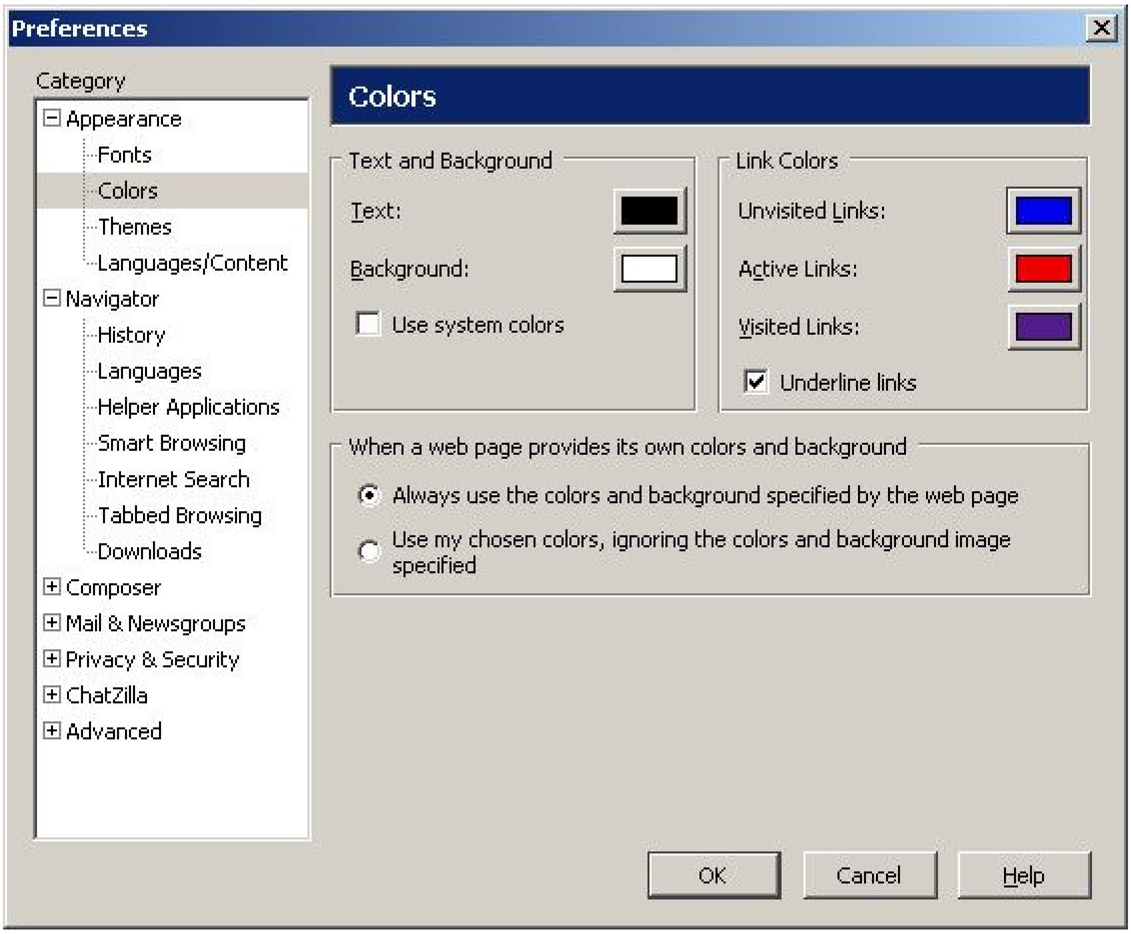
In general, links which you have not yet visited will be shown in blue, and links you have already visited will be shown in purple. All links will be underlined. This could vary depending on the settings for your individual Internet browser.

In Microsoft Internet Explorer, the colour settings can be found at "Tools / Internet Options ... / General / Colours", and the underline function is at "Tools / Internet Options ... / Advanced / Browsing / Underline links":

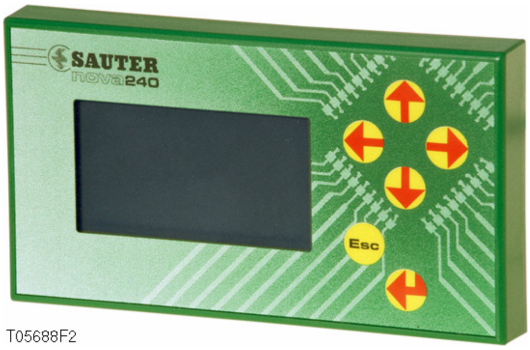





For Mozilla, you can find these settings at Edit / Preferences / Appearance / Colours:


Preferences
Category
Appearance
Fonts
Colors
Themes
Languages/Content
Navigator
History
Languages
Helper Applications
Smart Browsing
Internet Search
Tabbed Browsing
Downloads
Composer
Mail & Newsgroups
Privacy & Security
ChatZilla
Advanced
Colors
Text and Background
Text:
Background:
Use system colors
Link Colors
Unvisited Links:
Active Links:
Visited Links:
Underline links
When a web page provides its own colors and background
Always use the colors and background specified by the web page
Use my chosen colors, ignoring the colors and background image specified
OK
Cancel
Help

# 6 Service-Termial DigiService



T05688F2

## 6.1 Operation

Amongst other things, the nova240 enables: values and status to be displayed locally; switching and positioning commands to be issued; and the time- and date-dependent switching program to be entered and amended.

The nova240 can be connected to DigiUnit (AS). Since the nova240 itself does not need parameterising, it can be used as a mobile terminal for a lot of stations.
It gains all its information, i.e. plaintexts, unit of measurement etc., from the data-point attributes stored in the relevant automation station.

## 6.2 Operating philosophy

The nova240 is operated via four directional keys – two each for left/right (← and →) and up/down (↑ and ↓) – plus the **Esc** key and the return key (↵).
Use the ← and → keys to choose the desired function within the menu.
→ = downwards, next function
← = upwards, previous function
The function is then invoked after you have confirmed your choice by pressing the ↵ key.
In the case of purely reading functions (displaying measured values, alarms etc.), the ↑ or ↓ keys allow you to move through the alphanumerically arranged list.
In the case of input functions, the ← and → keys enable you to choose the appropriate location, while the ↑ and ↓ keys let you change the relevant value, the time and date etc.
If you keep the relevant key pressed, the change is continual instead of in single steps.
Press the ↵ key to confirm.

## 6.3 Illumination

Each press of a button switched the display's illumination on. The light goes out again if no key is pressed within the next 7.5 minutes.
This method extends the life of the display.

Once the illumination goes out, the password becomes invalid, i.e. it has to be entered again in order to make further entries.

# 6.4 Adjustement of the contrast

At the back of the device the contrast of the display can be varied with the help of a small screwdriver.

# 6.5 List of functions

The various functions of the nova240 can be attained using three menus:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | E | N | U | | 1 | | | | → | N | e | x | t | | p | a | g | e | s | |
| → | P | a | s | s | w | o | r | d | | | | | | | | | | | | |
| → | A | d | d | r | e | s | s | | r | e | s | e | t | | | | | | | |
| → | A | l | a | r | m | s | / | F | a | u | l | t | s | | | | | | | |
| → | S | t | a | t | u | s | | + | | B | i | n | a | r | y | | F | B | | |
| → | M | e | a | s | u | r | e | d | | v | a | l | u | e | s | | | | | |
| → | C | o | u | n | t | e | r | | v | a | l | u | e | s | | | | | | |
| → | S | w | i | t | c | h | | c | o | m | m | a | n | d | s | | + | | F | B |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | E | N | U | | 2 | | | | → | N | e | x | t | | p | a | g | e | s | |
| → | S | e | t | p | o | i | n | t | s | / | P | o | s | . | v | a | l | u | e | s |
| → | A | l | l | | M | F | A | s | | | | | | | | | | | | |
| → | S | w | i | t | c | h | i | n | g | | p | r | o | g | r | a | m | | | |
| → | S | e | t | | c | l | o | c | k | | | | | | | | | | | |
| → | A | n | n | u | a | l | | t | a | b | l | e | | | | | | | | |
| → | S | u | m | m | e | r | - | / | w | i | n | t | e | r | t | i | m | e | | |
| → | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | E | N | U | | 3 | | | | → | N | e | x | t | | p | a | g | e | s | |
| → | P | a | r | a | m | e | t | e | r | | s | e | r | v | i | c | e | | | |
| → | G | r | . | n | o | . | / | c | h | a | r | a | c | t | e | r | | s | e | t |
| ↑ | G | e | r | m | a | n | | | | | | | | | | | | | | |
| → | V | e | r | s | i | o | n | | | | | | | | | | | | | |
| → | | | | | | | | | | | | | | | | | | | | |
| → | | | | | | | | | | | | | | | | | | | | |
| → | | | | | | | | | | | | | | | | | | | | |

Go to the next or the previous menu by:-

- pressing the ESC key repeatedly, or
- pressing the ← key several times until the → symbol is activated at 'Next pages'. You can then press either ↑ to select the next menu or ↓ to choose the previous one.

# 6.6 The menu items explained

## 6.6.1 MENU 1

### 6.6.1.1 Password

Switching and positioning commands can be issued – i.e. the ’Switching commands with FB (feedback signals)‘ (MENU 1) and ’Setpoints/Positioning values‘ (MENU 2) functions – are possible only after the correct password has been entered.
The same applies to the functions:-

- Change/delete password
- Set clock
- Annual table
- Summer-/winter time
- Sub-menus for the ’Switching program‘ function

You reach the password function in MENU 1 by pressing the ← and → keys, and then confirming with ↵.

The following input mask appears:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | e | n | u | | | | | | | | P | A | S | S | W | O | R | D | | |
| | | | | | | | | | | | 0 | 0 | 0 | 0 | | | | | | |
| | | | | | | | | | | | ↑ | ↑ | ↑ | ↑ | | | | | | |
| → | | E | n | t | e | r | | | | | | | | | | | | | | |
| → | | C | h | a | n | g | e | | | | | | | | | | | | | |
| → | | D | e | l | e | t | e | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

The nova240 is supplied ex works with the password set at 0000.

You can adopt this password unchanged for you system; enter it once as soon as the manual operating unit has been plugged in. The operations described above are then possible until the nova240 is taken out of service or until the illumination is switched off.
Using the ← or → keys, position the cursor at the four input places, each of which bears the figure 0. A further press of the → key leads you to the → ’Input‘ function.
Now confirm the **0000** combination of figures by pressing the ↵ key.
If no-one has changed the password from the factory setting, the word VALID appears in the display.
If you want to work with your own password in your system, you can enter it via the *Change* menu item, on condition that you have entered once before the password that was valid previously. Now choose the password function again and enter the desired password. After having entered the ’ones‘, press the → key twice. You then reach the *Change* function. Confirm by pressing ↵; the word CHANGED then appears.

The *Delete* function

This allows you to end the password's period of validity, which normally expires 7.5 minutes after the last button has been pressed, i.e. for the same length of time as the illumination is active.
Use ’Delete‘ to end the authorisation rights immediately.

Press → until the → *Delete* function is activated.
Confirm this by pressing ↵; the word DELETED then appears.

### 6.6.1.2 Address reset

In the case of the functions described later, measured values, alarms etc. are shown in alphanumerical order of the house address, i.e. A comes before B, 1 before 2, A5 before B3 etc.
The automation station saves the last piece of information (that you viewed) with its alphanumerical house address and, when the function is called up again, continues the portrayal from there (or, in the case of another type of data point, from the following 'house address' of the new category).
If, when choosing a data point, you want to start right from the beginning again, then choose the menu item *Address reset* and confirm with ↵.
The entry is confirmed by a jump from → to the following function.

### 6.6.1.3 Portrayal of data points

Alarms/faults
Status + binary feedback signals
Measured values
Counter values

These four menu items permit you to view all associated data points after you have chosen a data-point category.
Using the ← or → keys, select the preferred type of data point and confirm with ↵.
If you have performed an 'address reset' beforehand, the value/status of the alphanumerically lowest house address is shown, otherwise the address at which you left the menu the last time. Use ↑ and ↓ to leaf through the chosen data-type category.
You exit this function with the **Esc** key, then return to the menu and can now choose another type of data point by using the ← and → keys.

Example for 'Measured values'.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | | | | | ↑ | M | E | A | S | . | V | A | L | U | E |
| H | o | u | s | e | | a | d | d | r | e | s | s | | | | | | | | |
| A | d | d | r | e | s | s | | t | e | x | t | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | + | 2 | 1 | . | 5 | 0 | | ° | C | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

### 6.6.1.4 Switching commands with FB (feedback)

You obtain this function, after choosing MENU1, by pressing the key → (press once or several times) and confirming with ↵.

The following appears (example):-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | | | | | ↑ | S | W | . | C | O | M | M | A | N | D |
| H | o | u | s | e | | a | d | d | r | e | s | s | | | | | | | | |
| A | d | d | r | e | s | s | | t | e | x | t | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| → | A | U | T | | → | | 0 | | | → | | I | | | → | | II | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| L | O | C | A | L | | | | | | | | | | | | | | | | |
| | A | U | T | H | O | R | I | S | A | T | I | O | N | | N | E | E | D | E | D |

First use the ← or → keys to choose the address.
The prevailing switching condition (feedback) is shown by an underscore – in the above example, it is I (level I) – and, if parameterised accordingly, either AUT or LOCAL is underlined, which tells you whether the condition was caused by local operation or by the relevant output on the automation station (AUT).
If you want to change a switching status (which is possible only on those switching levels marked with →), you can use the ← or → keys to choose the switching level (the symbol → at the relevant level is then marked) and confirm with ↵. If you have entered the correct password beforehand as per the 'Password' function in Menu 1, the command is issued by the automation station, otherwise the message 'AUTHORISATION NEEDED' appears.

## 6.6.2 MENU 2

### 6.6.2.1 Setpoints/positioning values

Use the **Esc** key to obtain MENU 2. Then, using the ← or → keys, choose the relevant function and confirm with ↵.

The following then appears:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | | | | | ↑ | S | E | T | P | / | P | O | S | V | A |
| H | o | u | s | e | | a | d | d | r | e | s | s | | | | | | | | |
| A | d | d | r | e | s | s | | t | e | x | t | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | V | a | l | u | e | | |
| C | h | a | n | g | e | | v | a | l | u | e | : | | | | | | | | |
| + | / | - | | | | # | # | # | . | # | # | | | R | O | | | A | U | T |
| | | | | | | ↑ | ↑ | ↑ | | ↑ | ↑ | | | ↑ | | | | ↑ | | |

Using the ↑ or ↓ keys, choose the relevant house address and confirm with ↵.

The last value to be commanded is shown. In the case of setpoints, it is shown as an absolute value with unit of measurement, e.g. 21.5 °C; in the case of positioning values (valves, dampers), they are shown in standardised form from 0.000...1.000, equivalent to 0...100 with % shown as the unit of measurement.
In the case of positioning values, you can see the operating mode, i.e. whether the positioning value is coming from a control module (therefore Automatic) – in which case, AUT appears – or whether the value shown emanates from the manual operating unit, and that operating mode still applies. In this field, AUT (without underscore) appears.
If you want to change the value, press the ← or → keys and choose the preferred input position within # # #.# # in each case.

Using the ↑ and ↓ keys, enter the desired figure for every position. This is accepted by the automation station **immediately**, without you having to press the ↵ key.
By pressing the → key again, you obtain the functions R0 and AUT, each of which is activated by the ↵ key.
R0 denotes: Reset 0, i.e. you can set the value entered directly to 0 and, therefore, start from the beginning again.

**For positioning values only:-**
AUT denotes: you allow the station's internal control system to assume control over the value entered. The displayed value stays at the last value that was issued.
The Automatic condition is indicated by an underscore, i.e. AUT.

If, in Menu 1, you have entered either the wrong password or none at all, the message AUTHORISATION NEEDED appears.

#### 6.6.2.2 All MFAs

MFA is the abbreviation for machine fine address. Usually, you work not with the system's internal name for the data points, but with the so-called 'house address', which describes the data point from the user's point of view in accordance with mnemonic aspects using 24 characters.
In the 'All MFAs' menu item, the data points appear in alphanumerical order and are mixed across all types of data point.
To select the address, press the ↑ or ↓ key (↑ = forwards; ↓ = backwards). If a generated house address is found during the search, but it does not have a meaningful parameterisation, then 'All MFAs' instead of the data-point category (↑ ALARM, ↑ MEASURED VALUE,...) appears in the header.

#### 6.6.2.3 Time-based switching program

Normally, the automation station already has a time-based switching program. This has been loaded either by the DigiCom-Tool or by the DigiMaster user panel.
Using the manual operating unit, you can view the time-based switching program and, if necessary, change it. There are five masks available for this:-

- Overview
- EDIT (protected by password)
- HELP 1, HELP 2, HELP 3

HELP 1 explains how to enter annual, monthly and daily codes
HELP 2 provides further explanations on the daily code and notes on the hourly code.
HELP 3 explains special minute codes.
By repeatedly pressing the ↵ key, you can call up the help texts H1, H2, H3, H1,... one after the other.

### 6.6.2.3.1 View program

By pressing **Esc** once or several times, choose MENU 2 and then, by pressing the → key, choose the time-based switching program. Confirm with ↵.

The **switching commands** then appear:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | ↑ | A | d | r | | ↑ | P | l | a | c | e | : | | | |
| H | O | U | S | E | | A | D | D | R | E | S | S | | | | | | | | |
| A | D | D | R | E | S | S | | T | E | X | T | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Y | Y | | M | M | | D | D | | h | h | | m | m | | | | | M | F | A |
| | | - | | | - | | | - | | | - | | | | | | | | | |
| S | W | . | C | O | M | M | A | N | D | : | | | | | | | | | | |
| → | E | D | I | T | | | | | | | | | | | → | H | E | L | P | |

The shaded fields show where variables – such as memory location, text, date and time information, the machine fine address etc. – are shown.

The following then appears at **Positional commands**:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | ↑ | A | d | r | | ↑ | P | l | a | c | e | : | | | |
| H | O | U | S | E | | A | D | D | R | E | S | S | | | | | | | | |
| A | D | R | E | S | S | | T | E | X | T | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| Y | Y | | M | M | | D | D | | h | h | | m | m | | | | | M | F | A |
| | | - | | | - | | | - | | | - | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| → | E | D | I | T | | | | | | | | | | | → | H | E | L | P | |

Content of the penultimate line (depending on the memory location chosen):-
- AUT in the ’From control module‘ operating mode, the unit of measurement (e.g. °C) then appears at the far right.
- Abs: or Rel: default value including unit of measurement.

**N.B.:**
The complete mask does not appear unless you have chosen (at ’Place‘) a memory location that is linked to the chosen address.
If the ’Adr‘ function is chosen (denoted by the ↑ in bold type), you can, using the ↑ and ↓ keys, view all APC-type – i.e. the switching- and positioning-command addresses generated accordingly – one after the other.

The following are shown:-
- The house address
- The address text
- The station's internal associated MFA
- Place 000...319 in the program memory, plus
  - the date/time information
  - the associated switching or positioning command

Within the chosen address you can use the → key to choose the ’Place:‘ function, and the ↑ and ↓ keys to view all the functions already programmed for this address (date,

time, command). If you choose 'Place:' and press the ↑ key, the first program place at which there is an entry for the selected address is chosen immediately.

### 6.6.2.3.2 Change program

If you wish to change or add commands, choose the 'Edit' function by pressing → several times, and then confirm with ↵.

At **Switching commands**, the following input mask appears:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | P | C | | | | | | | | E | d | i | t | | | | | | | |
| → | O | v | w | | → | H | e | l | p | | | → | D | e | l | e | t | e | | |
| → | B | C | m | | x | x | | | | | | → | S | P | | - | - | | | |
| ↑ | P | l | . | / | → | S | p | a | r | e | / | → | R | 0 | : | | | | | |
| | Y | Y | | | M | M | | | D | D | | | h | h | | | m | m | | |
| ↑ | | | | ↑ | | | | ↑ | | | | ↑ | | | | ↑ | | | | |
| S | w | . | c | o | m | m | a | n | d | : | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | ↑ | | |

It can be seen in the third line that the address is a **b**inary **com**mand address in accordance with the generation (BCm xx). It is not possible to state a setpoint (SP --). If an MFA ever needs to be able to process both binary commands and setpoints, and to edit a spare place, the operating mode can also be chosen by the manual operating unit.
To do so, use the → and ← keys to put the input mask to the relevant operating mode BCm or SP, enter the desired operating mode and confirm with ↵.

At **Positioning commands**, the following mask appears:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | P | C | | | | | | | | E | d | i | t | | | | | | | |
| → | O | v | w | | → | H | i | l | f | e | | → | D | e | l | e | t | e | | |
| → | B | C | m | | - | - | | | | | | → | S | P | | x | x | | | |
| ↑ | P | l | . | / | → | S | p | a | r | e | / | → | R | 0 | : | | | | | |
| | Y | Y | | | M | M | | | D | D | | | h | h | | | m | m | | |
| ↑ | | | | ↑ | | | | ↑ | | | | ↑ | | | | ↑ | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| A | U | T | | | | | | | | | | | | | | | | | | |
| ↑ | | | → | R | e | s | e | t | | ↑ | ↑ | ↑ | . | ↑ | ↑ | | | | | |

In the penultimate line, UT appears for setpoint/positioning value from control loop Abs to set an absolute value, e.g., 21.5 °C Rel to set a relative value, e.g. as setpoint correction +/-.
To do this, you must either have chosen a location in the overview menu that contains a positioning command for this address or choose such a location in row 4.
To set the value, both absolute and relative, the value entered in row 9 at the input positions ↑↑↑.↑↑ appears to the right in row 8. In AUT mode, only the unit of measurement (e.g. °C) is there.
When choosing Abs. or Rel, you can set a value after having selected the particular input position in row 9. This is accepted **directly**, without you having to confirm with ↵.

This default value is set to 0 by choosing the → Reset function and confirming with the ↵ key.

Position the cursor to Pl. (place in the program memory, or memory location) and use the ↑ and ↓ keys to choose the already-programmed inputs.

The memory location that you have selected is shown at R0:. If, when there are a lot of locations, you want to return quickly to the first location of the program memory, use the ← and → keys to choose the → R0 (Reset 0) function, and then confirm with the ↵ key.

If you wish to change the shown program step, position the input cursor accordingly and enter the new item of information directly, without using the ↵ key.

## 6.6.2.4 Set clock

The automation station (AS) can handle numerous time- and date-based functions.

The menu item described here allows you to set the clock in the automation station accurate to the second. It then runs with the precision of the automation station's quartz.

Using **Esc**, choose MENU 2 and then, by pressing → several times, choose the function 'Set clock'. Confirm with ↵.

The following then appears:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | E | N | U | | | | ↑ | S | E | T | | C | L | O | C | K | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | Y | Y | | M | M | | D | D | | h | h | | m | m | | s | s | | |
| | | 9 | 8 | - | 1 | 0 | - | 1 | 9 | | 1 | 4 | . | 5 | 9 | . | 2 | 7 | | |
| | | | ↑ | | | ↑ | | | ↑ | | | ↑ | | | ↑ | | | ↑ | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

Using the ← or → key, choose the cursor position; using the ↑ and ↓ keys, set the numbers. Each setting is accepted without you having to confirm with ↵.

## 6.6.2.5 Annual chart

You can assign a 'Special day' program (different to the actual weekday) to any day of the year. On this day, the program defined for the special day runs instead of the normal program. If, for instance, May 1st is a public holiday and falls on a Wednesday, and you want to run the same program as for Sunday, choose day code 7 for May 1st.

Input:
Using **Esc**, choose MENU 2 and, by pressing → several times, the function → 'Annual chart'. Confirm with ↵.

The following then appears:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | | | | A | N | N | U | A | L | | C | H | A | R | T |
| | Y | Y | : | | → | 1 | 3 | 5 | 7 | 9 | | / | | M | M | : | | ↑ | | |
| | C | h | a | n | g | e | | d | a | y | | c | o | d | e | : | | | | |
| | D | a | y | : | | | | | | | | | | | | | | | | |
| 1 | . | - | 7 | . | | | → | | → | | → | | → | | → | | → | | → | |
| 8 | . | - | 1 | 5 | → | | → | | → | | → | | → | | → | | → | | → | |
| 1 | 6 | - | 2 | 3 | → | | → | | → | | → | | → | | → | | → | | → | |
| 2 | 4 | - | 3 | 1 | → | | → | | → | | → | | → | | → | | → | | → | |

Now use → to choose the function YY (year).

By pressing ↑ or ↓, you have the choice between even and odd years (13579 or 02468). This allows you to decide whether the entries should apply for the current or the following year.
By pressing → move on to the month selection MM, and use ↑ or ↓ to choose the month that you wish to edit (01, 02, ...12).
By pressing → accordingly, select the relevant day in the four lines 1. - 7./8. - 15./16. - 23. and 24. - 31., and then use the ↑ and ↓ keys to set the day code 1 ... 7 (denoting Monday to Sunday).
The additional input options are as follows:-
0: Daily
8: Special day 1
9:
A:
B:
C:
D:
E:
F: Special day 8

Confirm the entry with ↵. If the password is incorrect, or if no password has been stated, AUTHORISATION NEEDED appears in the display.
**N.B.**: This annual chart applies to the whole automation station.

## 6.6.3 MENU 3

The menu has the following functions:-

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | E | N | U | 3 | | | | | → | N | e | x | t | | p | a | g | e | s | |
| → | P | a | r | a | m | e | t | e | r | | s | e | r | v | i | c | e | | | |
| → | G | r | . | n | o | . | / | C | h | a | r | a | c | t | e | r | | s | e | t |
| ↑ | L | a | n | g | u | a | g | e | | | | | | | | | | | | |
| → | V | e | r | s | i | o | n | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

### 6.6.3.1 Gr. no. (group number)/Character set

In MENU 3, called up via the **Esc** key, choose this function by pressing → several times.

The following then appears:--

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| → | M | e | n | u | | | | | | | | | | | | | | | | |
| G | r | . | n | o | . | H | e | x | : | | | | | | | | | | | |
| | ' | " | # | ° | % | | | | | | | | | | | | | | | |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | |
| | | | | | | | | e | t | c | . | | | | | | | | | |
| | | | | | | | | | | | | | | ö | ü | | | | | |

In the second row, the automation station's group number is shown as a hexadecimal. Below this are the characters, in accordance with the language chosen.

### 6.6.3.2 The Language function

In MENU 3, choose the third function by pressing the → key several times and confirming with ↵.
Using the ↑ (forwards) or ↓ (backwards) keys, you can choose the language provided in the automation station for the menus. Apart form German, French and English, other languages, such as Italian, Dutch etc., are available. The language chosen is accepted **immediately**, without you having to press the ↵ key.
You will also notice that the menu in which you choose the language is itself immediately shown in that language.

### 6.6.3.3 Version

In MENU 3, choose this function by pressing the → key several times and confirming with ↵.
Information concerning the microprogram's index and the software's version is then shown.

# 7 Glossary

## Abbreviations and terminology

| | | |
|---|---|---|
| ActiveX | | Microsoft technology for software components which can be used by other programmes |
| AS | Automation station | Programmable device that can be used for control and regulation. |
| BACnet | Building Automation Control Network | Interface standardised by ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineering) for building automation. Specially geared to the management and automation levels. |
| Cache | | A local copy of data which have been downloaded from a remote host to reduce access time |
| CASE | Computer Aided Sauter Engineering | Software tools for design engineering, development and documentation. |
| CASE FBD | Function Block Diagram | Function Block Diagram editor to programme automation stations. |
| CGI | Common Gateway Interface | A standard technology for data exchange between the client's web browser and the programme that is running on the web server. |
| Client | | The client (workstation or application) is provided with data, memory and resources from a server (computer in a network or application). |
| Cookie | | Cookies transfer information from the web server to the client, e.g. for identification purposes (session management) |
| CSD | Circuit Switched Data | Circuit Switched Data is the standard circuit switched data transmission for GSM at 14.4 kBit/s, traditionally used for voice transmission. |
| CSV | Comma Separated Values | A tabular data format which uses delimiters (commas, tabs, semicolons, etc.) to separate fields. |
| DB9 | | The 9-pin SubD connection is standard for RS232 connections. (DB25 with 25 pins is also very widespread). |
| DCE | Data Communication Equipment | Something similar to a modem. |
| DDE | Dynamic Data Exchange | Protocol for dynamic data exchange between independent applications. |
| Debug | | Special operating mode for fault-finding. |
| DNS | Domain Name System | In a 'Domain Name System', the IP addresses of all hosts and servers are stored and made available to transmit information from one or more computers. |

| | | |
|---|---|---|
| DTE | Data Terminal Equipment | Something similar to a PC. |
| ecos | | Individual room control system in the EY system family. |
| EPROM | Erasable Programmable Read Only Memory | Non-volatile data memory (Chip). The stored data are preserved even if there is a power failure. |
| Remote island | | Subnet that is not connected to the rest of the network directly via novaNet, but via a modem connection (for example). |
| Firewall | | Facility set up via software and hardware to protect a LAN against attacks from the Internet. |
| GMT | Greenwich Mean Time | Greenwich Mean Time is the time at 0 degrees geographic longitude (at Greenwich near London, UK). International time information is normally stated in relation to GMT. |
| GPRS | General Packet Radio Service | General Packet Radio Service is a packet switched data transmission which is much faster than CSD (also up to 56 kBit/s). Theoretically, the connection is constantly present, but you only pay for the actual data volume. |
| GSM | Global System for Mobile Communication | Worldwide standard for mobile telephony. |
| House address | | Unique designation of an object within the building management system. The house address can be assigned freely. For engineering purposes, a system for assigning house addresses is usually specified. |
| HDB | Historical DataBase | The HDB stores the values of a house address for later evaluation. |
| HSCSD | High Speed CSD | Bundles several CSD transmission channels together to allow higher transmission rates (normally up to 56 kBit/s). |
| HTML | HyperText Mark-up Language | Mark-up language for web pages (used to mark up links). |
| HTTP | HyperText Transfer Protocol | HyperText Transfer Protocol is the protocol used to transfer HTML-based web pages over a TCP/IP connection. |
| Internet | | The largest computer network in the world, comprising many interlinked networks. The most important services are:<br>electronic post (e-mail), hypertext-based content (WWW), file transfer (FTP) and discussion forums (Usernet / Newsgroups). |
| Intranet | | An internal company network that draws on Internet technology and is set up on in-company servers. In most cases, connection to the Internet is via a 'Firewall' (protective wall), that protects the Intranet against unauthorised access from the Internet. |

| | | |
|---|---|---|
| ISDN | Integrated Services Digital Network | Standard for digital telephone communication. |
| ISO | International Organization for Standardization | International non-governmental standard-setting organization |
| IT | | Information technology |
| Java / JavaScript | | Programming language for hypermedia documents. To run Java programmes, a 'Java Virtual Machine' is needed. These are built into widespread WEB browsers nowadays. In this way, Java programmes can be run on any computer, regardless of its hardware and operating system. |
| LAN | Local Area Network | Network that is set up locally and connected via Ethernet. 'Local' refers here to a common location such as a company site or a room. |
| LED | Light Emitting Diode | Semiconductor which lights up when the device is operating or when a signal is active. |
| LON | Local Operating Network | Field bus system that is based on a network of decentral nodes with their own intelligence. Communication is based on the LonTalk protocol. Compatibility of different manufacturers' products is certified by LONMARK certification. |
| MFA | MachineFineAddress | Datapoint address within an automation station. |
| nova240 | | Manual user panel for on-the-spot operation of the EY3600 nova automation station. |
| novaCom | | Interface to integrate non-Sauter bus systems into the EY3600 system at automation level. |
| novaNet | EY3600 system bus | Serial bus system with free topology, based on a twisted two-wire line, used to network AS and PC. The participants (who have equal rights) exchange the data in cross-traffic according to the 'Peer to Peer' principle. |
| novaNet290 | novaNet bus controller | Connection from a PC to the EY3600 novaNet system bus via ISA bus. |
| novaNet291 | novaNet router | Connection from a PC to the EY3600 novaNet system bus via RS232 interface. |
| novaPro Open | | Management system for complex installations and system integration. Drivers for the integration of non-Sauter systems and database connections via ODBC, DDE, SQL and OPC allow vertical as well as horizontal integration of a wide variety of sub-processes in a building. Information is made available locally as well as globally via the WEB technology it contains. |
| novaPro32 | | Visualisation and operating software for the EY3600 system. |
| Zero modem cable | | A special RS232 cable to connect two DTE units (as opposed to the usual cable to connect |

| | | |
|---|---|---|
| | | one DTE and one DCE unit) |
| OPC | OLE for Process Control | Standardised software interface for data exchange between automation systems. |
| OS | Operator Station | PC used as an operating position. |
| PDA | Personal Digital Assistant | Hand-held devices which usually include an organizer, some viewer programmes and further programmes. |
| PDM | Process Data Manager | PC that contains the connection to the automation level system bus. |
| Peer-to-Peer | | Communication model where each participant can initiate the communication with equal rights (as opposed to master-slave). |
| Proxy | | A proxy server supplies the data (usually Web pages) which the client requests for the cache memory. |
| RAM | Random Access Memory | Volatile memory used to store programmes and data during execution (as long as the device is running). |
| Routel | | Connection between a remote AS island and a PC via modem |
| Router | | A router connects two networks; it forwards the data between the networks. |
| RS232 | | RS232 is a standard format for exchanging serial data. |
| RT | Real Time Clock | Real Time Clock |
| Server | | The server (computer in a network or application) provides the clients (workstations or applications) with data, memory and resources. |
| SIM | Subscriber Identity Module | Card on which a code is stored to identify a mobile phone (GSM) subscriber. |
| Smart phone | | Hand-held devices which combine the functions of PDAs and mobile telephones. |
| SMS | Short Message Service | A service available on most mobile phones to transfer short text messages of up to 140 bytes. |
| Symbian | | Operating system developed by the Symbian company, used mainly for small hand-held devices such as smart phones or PDAs. |
| TCP/IP | Transmission Control Protocol / Internet Protocol | The Internet Protocol (IP) is used to fragment and address data, which it transmits from the sender to the recipient. The Transmission Control Protocol (TCP) ensures that the packets are sorted in the correct sequence when they reach the recipient; it safeguards communication by confirming reception of the packets. |
| UMTS | Universal Mobile Telecommunications System | New (third-generation) mobile phone technology. |

| | | |
|---|---|---|
| URL | Uniform Resource Locater | A standardized address for most resources on the Internet |
| WAN | Wide Area Network | A WAN is a network that can be set up throughout the world (but at least, it must go beyond your own four walls). |
| WEB | from 'World Wide Web' | Service in the Internet featuring a high level of user-friendliness and multimedia elements. |
| WEB browser | | Examples: Microsoft Internet Explorer, Mozilla or Netscape Navigator, etc. |

# 8 Further documentation

You will find the currently available EY3600 manuals here, with their respective manual numbers:
- XXX=001=German
- XXX=002=French
- XXX=003=English

| DigiNet DN5 | EY3600 | Manual no. |
|---|---|---|
| **DigiCom** | novaPro32<br>Operating Manual | **7 000 894 - XXX** |
| | novaPro32<br>Configuration | **7 000 904 - XXX** |
| | novaPro32<br>Installation | **7 000 915 - XXX** |
| **DigiWeb** | novaWeb<br>User Manual | **7 001 049 - XXX** |
| | novaWeb<br>Quick Start Guide | **7 001 057 - XXX** |
| | novaWeb<br>Configuration Manual | **7 001 056 - XXX** |
| | novaWeb<br>Programming Manual | **7 001 050 - XXX** |
| **DigiMaster** | EYT250 Configurator | **7 001 020 - XXX** |
| **DigiBac** | BACnet AS<br>Operating Manual | **7 001 007 - XXX** |
| **Miscellane-ous** | Product and system information | **7 190 000 - XXX** |
| | EY3600 System Description | **7 000 937 - XXX** |
| | First Steps | **7 000 931 - XXX** |
| | CASE FBD Editor<br>Operating Instructions | **7 000 866 - XXX** |
| | Firmware Modules | **7 000 877 - XXX** |
| | Automation Stations<br>Microprogram Description | **7 000 968 - XXX** |
| | nova240<br>Operating Manual | **7 000 848 - XXX** |

# 9 Annexe

## 9.1 AS coding

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 1 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1035 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1036 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1037 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1038 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1039 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1040 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1041 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1042 |
| | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1043 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2059 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2060 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2061 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2062 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2063 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2064 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2065 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2066 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2067 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4097 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 2 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1045 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1046 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1047 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1048 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1049 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1050 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1051 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1052 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1053 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2069 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 2070 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2071 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2072 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2073 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2074 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2075 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2076 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2077 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 4098 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 3 | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 3 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1055 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1056 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1057 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1058 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1059 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1060 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1061 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1062 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1063 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2079 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2080 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2081 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2082 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2083 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2084 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 2085 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 2086 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2087 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 4099 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 4 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1065 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1066 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1067 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1068 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1069 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1070 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1071 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1072 |
| | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1073 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2089 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 2090 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2091 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 2092 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 2093 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2094 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2095 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2096 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2097 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4100 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 5 |
| | DigiUnit | EYR209 | 1 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1075 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1076 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1077 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1078 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1079 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1080 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1081 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1082 |
| 5 | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1083 |
| | DigiEco | EYE202 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2099 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 2100 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2101 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2102 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 2103 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2104 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2105 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2106 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 2107 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 4101 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 6 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1085 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1086 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1087 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1088 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1089 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1090 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1091 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1092 |
| 6 | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1093 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 2109 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 2110 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2111 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2112 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2113 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2114 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2115 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2116 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2117 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 4102 |

| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
| 7 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 7 |
| | DigiUnit | EYR209 | 1 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1095 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1096 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1097 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1098 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1099 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1100 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1101 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1102 |
| | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1103 |
| | DigiEco | EYE202 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 2119 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 2120 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2121 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2122 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2123 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2124 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 2125 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 2126 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2127 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 4103 |

| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
| 8 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 8 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1105 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1106 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1107 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1108 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1109 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1110 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1111 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1112 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1113 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2129 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 2130 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 2131 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 2132 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2133 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 2134 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 2135 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2136 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 2137 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4104 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 9 | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 9 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1115 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1116 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1117 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1118 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1119 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1120 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1121 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1122 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1123 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 2139 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 2140 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 2141 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 2142 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 2143 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2144 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 2145 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 2146 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 2147 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 4105 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 10 | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 10 |
| | DigiUnit | EYR209 | 1 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1125 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1126 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1127 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1128 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1129 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1130 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1131 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1132 |
| | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1133 |
| | DigiEco | EYE202 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 2149 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 2150 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 2151 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 2152 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 2153 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 2154 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 2155 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 2156 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 2157 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 4106 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 11 |
| | DigiUnit | EYR209 | 1 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1135 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1136 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1137 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 1138 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 1139 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 1140 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1141 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1142 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1143 |
| 11 | DigiEco | EYE202 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 2159 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2160 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 2161 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 2162 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | 2163 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 2164 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 2165 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 2166 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 2167 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 4107 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 12 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1145 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1146 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1147 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1148 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1149 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1150 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1151 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1152 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1153 |
| 12 | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 2169 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 2170 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 2171 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 2172 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 2173 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 2174 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2175 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2176 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2177 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 4108 |

| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Codierungsmerkmale** | | | **Codierung binär** | | | | | | | | | | | | | | | | |
| 13 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 13 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1155 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1156 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1157 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1158 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1159 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1160 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1161 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1162 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1163 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2179 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2180 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2181 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2182 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2183 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2184 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2185 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2186 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2187 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 4109 |

| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Codierungsmerkmale** | | | **Codierung binär** | | | | | | | | | | | | | | | | |
| 14 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 14 |
| | DigiUnit | EYR209 | 1 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1165 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1166 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1167 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1168 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1169 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1170 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1171 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1172 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1173 |
| | DigiEco | EYE202 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 2189 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2190 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2191 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2192 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2193 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2194 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2195 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 2196 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 2197 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 4110 |

| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Codierungsmerkmale | | | Codierung binär | | | | | | | | | | | | | | | | |
| 15 | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 15 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1175 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1176 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1177 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1178 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1179 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1180 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1181 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1182 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1183 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 2199 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2200 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 2201 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2202 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2203 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 2204 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 2205 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 2206 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2207 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 4111 |

| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Codierungsmerkmale | | | Codierung binär | | | | | | | | | | | | | | | | |
| 16 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 16 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1185 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1186 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1187 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1188 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1189 |
| | DigiUnit | EYR209 | 6 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 1190 |
| | DigiUnit | EYR209 | 7 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1191 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1192 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1193 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2209 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 2210 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 2211 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2212 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 2213 |
| | DigiEco | EYE202 | 6 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 2214 |
| | DigiEco | EYE202 | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 2215 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2216 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2217 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4112 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 17 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1195 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1196 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1197 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1198 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1199 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1200 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1201 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1202 |
| 17 | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1203 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 2219 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 2220 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 2221 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 2222 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 2223 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2224 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2225 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 2226 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 2227 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 4113 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 18 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1205 |
| | DigiUnit | EYR209 | 2 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1206 |
| | DigiUnit | EYR209 | 3 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1207 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1208 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 1209 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1210 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1211 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1212 |
| 18 | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1213 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 2229 |
| | DigiEco | EYE202 | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 2230 |
| | DigiEco | EYE202 | 3 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 2231 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 2232 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2233 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 2234 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 2235 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 2236 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 2237 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4114 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 19 | DigiPlus | EYR203 | - | 1 | | | | | | | | | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 19 |
| | DigiUnit | EYR209 | 1 | 1 | | | | | | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1215 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1216 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1217 |
| | DigiUnit | EYR209 | 4 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1218 |
| | DigiUnit | EYR209 | 5 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1219 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1220 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1221 |
| | DigiUnit | EYR209 | 8 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1222 |
| | DigiUnit | EYR209 | 9 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1223 |
| | DigiEco | EYE202 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2239 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2240 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2241 |
| | DigiEco | EYE202 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2242 |
| | DigiEco | EYE202 | 5 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2243 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2244 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2245 |
| | DigiEco | EYE202 | 8 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 2246 |
| | DigiEco | EYE202 | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 2247 |
| | DigiZone | EYE202 | - | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 4115 |

| Codierungsmerkmale | | | | Codierung binär | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Gerätetyp | AS-Typ | Gerätenummer | Even Parity | 16384 | 8192 | 4096 | 2048 | 1024 | 512 | 256 | 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1 | Resultierende AS-Nummer effektiv |
| 20 | DigiPlus | EYR203 | - | 0 | | | | | | | | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 20 |
| | DigiUnit | EYR209 | 1 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1225 |
| | DigiUnit | EYR209 | 2 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1226 |
| | DigiUnit | EYR209 | 3 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1227 |
| | DigiUnit | EYR209 | 4 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1228 |
| | DigiUnit | EYR209 | 5 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1229 |
| | DigiUnit | EYR209 | 6 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 1230 |
| | DigiUnit | EYR209 | 7 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1231 |
| | DigiUnit | EYR209 | 8 | 1 | | | | | | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1232 |
| | DigiUnit | EYR209 | 9 | 0 | | | | | | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1233 |
| | DigiEco | EYE202 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 2249 |
| | DigiEco | EYE202 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 2250 |
| | DigiEco | EYE202 | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 2251 |
| | DigiEco | EYE202 | 4 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 2252 |
| | DigiEco | EYE202 | 5 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 2253 |
| | DigiEco | EYE202 | 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 2254 |
| | DigiEco | EYE202 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 2255 |
| | DigiEco | EYE202 | 8 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2256 |
| | DigiEco | EYE202 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 2257 |
| | DigiZone | EYE202 | - | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 4116 |
| - | DigiBac | EYK220 | - | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8192 |

# 10 Document history

| Version | Changed by | Changes made | Date |
|---|---|---|---|
| 1.0 | J. Sigg (Fr. Sauter AG) | First issue | 26.08.2005 |
| 1.1 | J. Sigg (Fr. Sauter AG) | Print screens English | 08.12.2005 |
| 2.0 | J. Sigg (Fr. Sauter AG) | Actualization chap. 2.1.4.1 corresponding to f the CD version PES5 | 07.07.2006 |
| 2.1 | J. Sigg (Fr. Sauter AG) | System component 'DigiLan' purged | 07.07.2006 |
| 2.2.1 | J. Sigg (Fr. Sauter AG) | Integration of the system component "DigiS-ervice | 25.07.2006 |
| 2.3 | J. Sigg (Fr. Sauter AG) | Chapter 4 "DigiEasy" completed | 25.07.2006 |
| 2.4 | J. Sigg (Fr. Sauter AG) | Language-specific download DigiMaster adapted | 25.07.2006 |
| 2.4.1 | J. Sigg (Fr. Sauter AG) | Print-optimized version regarding Illustration2-2: Connection with novaNet | 25.07.2006 |
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# 11 Detailed table of contents